

A M A T E U R R A D I O

JANUARY 1962



Vol. 30, No. 1



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taken on 7115 Kc.

★

OUR COVER

A new layout and a typical photo
of Amateur Radio!

Happy New Year to all from the
Publications Committee.

COMMENT

★

THE NEW YEAR—1962

This is the month of January and another year dawns; a year in which we will look forward to an increased interest in Amateur Radio. 1962 and the sunspot cycle promises unattractive conditions generally on the higher frequency bands, but improving conditions on the lower frequency bands. 1962, with a growing interest in s.s.b. transmissions from all over the globe, pointing up the future trend for Amateurs in order to accommodate the growing population of the Amateur Service. 1962, the year of the British Empire Games to be held in Perth, Western Australia, and the year the Wireless Institute of Australia will hold its first Federal Convention for three years.

Yes, there is something about a New Year which makes all of us look forward to the ensuing months of the year to come with a hope of achieving something. In the field of Amateur Radio there are many things to achieve—new antennae, new rigs, that first try at a simple s.s.b. outfit, the mobile equipment, the emergency equipment, new audio gear to perhaps serve as the family high fidelity set-up as well as a modulator; one or some of these things, and many other cherished hopes, come to mind at the commencement of another year.

At Headquarters there are many things to be done, too, the most urgent being the organisation for the forthcoming Federal Convention in Perth next Easter. It is proposed to design and produce a new handsome Membership Certificate that everyone should feel proud to display on the wall of his shack. A new certificate to replace the old National Field Day Certificate is on the drawing board. The new Remembrance Day Contest Certificate will be available.

The new "Handbook for the Guidance of Operators of Wireless Stations in the Amateur Service" will be printed by the Postmaster-General's Department and available to members complete with a number of amendments and deletions designed to simplify the interpretation of regulations. This book is not the law, but it is means by which we can regulate the sensible operation of our own stations in our limited frequency space. Take time off to brush up on the contents of this Handbook once every year.

And finally, on the DX bands remember you are virtually an ambassador for Australia. Your operating procedure, technique and manners are as important as the appearance and operation of your equipment—both should be good. Every signal that goes out of Australia should carry that "Goodwill Unto Man" which so characterises Amateur Radio all over the world.

Hearty Seasonal Greetings for the New Year to Amateurs wherever they may be situated from the gang at Headquarters.

FEDERAL EXECUTIVE, W.I.A.

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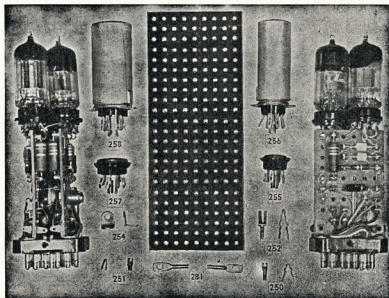
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MOBILE WHIP—WITH FERRAMIC CORE

CLEM J. MALOOF,* VK2AMA

NOW that spring is here and a young man's fancy turns to 40 metre mobileing, here is a short discussion on, and a design for, a more highly efficient, strong and durable "spring-stick" easily assembled from available items and which will even radiate the OM's pride and joy in having his own mobile gear at last.

It has a novel design in that the loading coil has a ferramic core which markedly reduces losses, increases Q and selectivity, and hence efficiency of radiation.

Without entering into a lot of antenna theory, which is readily available elsewhere, certain principles manifest themselves and it is there we shall discuss in non technical terms.

Fundamentally a shortened resonant whip may be considered as in Fig. 1. The inductance and capacitance of course cancel each other as in any resonant circuit.

Now for a given circulating r.f. current, the most power will be dissipated in the resistance of highest value, all resistances being in series except R-base. This will shunt the whole radiating system but poses no problem since even the poorest of insulators will have an impedance of many times the R-total of 30 ohms approx.

From this our prime objective is to make R-rad. as large as possible with respect to the R-total of the system, for the power developed here is the effective radiated power. The power developed in all the other positions is simply converted to heat and wasted.

Radiation resistance can be increased in two practical ways:

- (1) To make the overall size of the antenna as long as possible;
- (2) To raise the loading coil as high above the feed point as efficiency allows. (The coil cannot be raised right to the top because its losses mount alarmingly as it is necessary to add more turns to maintain resonance.)

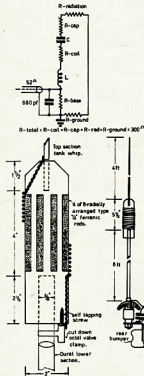
We can also tackle the problem by reducing as much as practicable all other resistances. Let us consider them individually, starting from the feed point.

R-coil depends on the number of turns and the resistivity of the conductor. The ratio of reactance to resistance must be high, i.e. high Q. As an example, an air-wound coil of high Q in the vicinity of 300 has a resistance of the order of 6 ohms at the centre of the whip. Using 2" diam. coil dimensions, this would amount to about 45 turns at the centre and considerably more at the higher position of our loading coil, together with a corresponding increase in resistance. Here is where the ferramic takes over and reduces turns to 19, having resistance of the order of 24 to 3 ohms, neglecting the small losses within the core itself. (N.B. Be careful to use the correct Q1 type ferramic.)

This saving in coil losses allows the higher position of the loading coil, thus increasing the radiation resistance over the usual centre loaded whip and raising the circulating r.f. current point higher above ground. (It has been shown that high r.f. current points radiate more than lower current points.)

R-capacitor is very small since the antenna is air-spaced from the chassis and therefore may be neglected.

R-ground includes the electrical resistance of large parts of the car body to each other and in particular to the connection of the feedline braid to chassis. The magnitude of this resistance is vague but one authority quotes



as much as 12 ohms at 4 megs. Having in mind the total input resistance of our antenna is of the order of 30 ohms, this is very significant. This loss must be reduced by:

- (1) Earthing feedline braid as close to whip base as possible, taking care to use large areas of contact and ensuring that paint, rust and foreign bodies are completely removed, giving good metal to metal contact. Here also avoid metals which may corrode in contact with each other, e.g. brass and aluminium.
- (2) Bonding doubtful sections of the car body to feed-line braid and to each other.

Finally, to complete the discussion, there is a very simple method for matching the 52 ohm co-ax line to the 30 ohm input impedance of the loaded whip almost perfectly. This is to shunt the termination of the line with a 680 pF mica capacitor. The advantage here is not to simply reduce s.w.r. losses which are so minor that they don't matter, but to simplify coupling line to final p.a. and to avoid retuning every time the v.f.o. is shifted.

Indeed, for the mobile on 40 metres only, there is much to be said in using the simple "old fashioned" link coupling which requires no band switching or any other controls, compared to our modern multi-controlled pi-coupler finals.

In summary, the efficiency of mobile whips for 40 metres is very very low, no matter which way we look at it. Therefore even the slightest improvement will give enormously more r.f. radiation than say the peaking up of a half wave doublet which is extremely efficient to start with.

CONSTRUCTION OF WHIP

The whip to be described is conveniently made in two sections for easy storage and quick assembly, taking less than five seconds. It is mechanically rigid, yet elastic enough to accommodate road shocks and its streamlined appearance will blend into any vehicle's contour. One section consists of tank whip and loading coil as an integral unit, the other section being simply the 6 ft. of 1/2" dural forming the main radiator.

For the construction you will need:

- 6 ft. of 1/2" heavy gauge dural tubing,
- 4 ft. top section of tank whip,
- 8" of 2" diam. polystyrene rod,
- 4 x 8" type Q1 ferramic rods,
- 1 pt. Ethylene Dichloride.
- 1 octal valve clamp (surplus). This has a lever action and an adjustable tension screw. As originally used it is bolted to chassis at one point and by flicking the lever, the octal valve is locked in or released.

Aerial base (any surplus). This has a long ground spike and the insulation is of ebonite solidly encased in brass. It seats perfectly the 1/2" dural tubing and mine cost only 1/2 db.

10 ft. of 12 gauge tinned copper wire.

The task requiring most ingenuity is to machine the poly. rod as indicated. This was done using a lathe for turning the end sockets and a vertical drill and jig to mill out the slots for the rods. These ferramic rods are filed in the centre and gently snapped in half. Each half is then radially countersunk into the poly. rod and secured with poly. cement applied in layers. This job takes about two days since each layer must dry before the next is applied. The poly. cement is made by dissolving

(Continued on Page 9)

GETTING TO KNOW THE OSCILLOSCOPE

PART TWO

J. L. K. MATCHETT,* B.A., B.Sc., B.Ed., VK3TL

Obviously the demonstration model described will need a high voltage power supply. A glance at c.r. tube characteristics will show that the A2 voltages are not uncommonly 2,000. However, it is possible to illustrate electron beam deflection with voltages as low as 350 using many common c.r. tubes. Such a power supply may be easily constructed by the teacher, or, for the sum of about ten shillings, an old radio receiver may be bought and this will provide the power needed. In order to help you trace the wiring of the power supply of a radio receiver, or construct one of your own, a circuit is given (Fig. 5). T is the power transformer. The primary is connected to 230 or 240 v.a.c. of the mains supply. Employ an earth lead and solder it by means of a lug to the chassis. The bottom of a power transformer may look like as shown in Fig. 6.

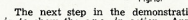
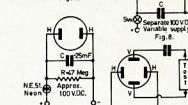
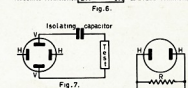
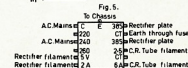
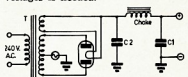
Usually the wires of the transformer are brought out to solder lugs, but occasionally they are not marked. To identify each one, it is necessary to use an ohmmeter or multimeter; the thickest wires will be the filament leads. Always test for resistance before connecting any leads to the a.c. mains in order to get some idea of turns ratio and therefore voltage output of the windings. An ordinary torch globe will act as a fuse and save both transformer windings and rectifier plates just in case there is a short across the output. The valve is any common rectifier, e.g. 80, 5Y3, 5V4, 5R4, 5Z3, 5U4 (all of these require five volts across their filaments, but some modern ones, e.g. 6X4, 6X5, 6V4 require 6.3 volts. In all cases make certain that the valve filament winding is quite a separate one from that of the c.r. tube filament.

Ch = filter choke. Due to its high inductance it provides impedance to a.c. at 50 c.p.s., and so brings about some smoothing of ripple. In modern radio sets, this is a separate component (usually 8 henries at a 50 mA. rating), but in old radio sets you will see, if you trace the wiring, that the choke is a part of the dynamic speaker. In fact it provides the field for the speaker. (Modern speakers are of the permanent type and they need no field coil.)

C1 C2 = electrolytic capacitors, usually about 8 μ F. or 16 μ F. With old sets you may find they take the form of aluminium cans. Pull any old capacitors (or condensers as they used to be called) out and replace with good modern ones of 600v. rating. Obviously, since they depend for their action upon electrolysis, their correct polarity must be observed. The red end is connected to the choke, i.e. positive side, and the metal end firmly soldered by means of tinned copper wire to ground, i.e. chassis.

So that the capacitors may discharge after the power pack is shut off, they may be made to discharge through a large value resistor (about 30,000 to 50,000 ohms), placed across the h.t. output. Its wattage rating will, of

course, depend upon the p.d. across it, but a usual value is 5 watts. Such a bleeder resistor has a safety function, but it also provides a little voltage regulation. The power pack will, with condenser input filtering as shown in Fig. 5, give about 400 to 430 volts d.c. output. Owing to the very small current drawn from it by the c.r.o., the actual voltage under load will not be much lower than this. In most cases this will be adequate for the requirements of the teacher but there are many other ways of obtaining higher voltages if needed.*



The next step in the demonstration is to show the c.r.o. in action. Apply an alternating voltage to the vertical plates through an isolating capacitor, leaving all other connections in place. Such a capacitor should have 600v. or better still, a 1,000v. rating; it will normally be of the paper type. This serves to isolate any d.c. of the c.r.o. from the test. Three sources of a.c. which show up well on the screen are a P.M.G. bell generator (available cheaply at disposals), a power transformer (in this case the a.c. voltages

applied may be compared by measuring the vertical displacement of the electron beam), and the output of an audio oscillator. One of the great advantages of using a low voltage power supply is that one requires a much lower test voltage to cause deflection of beam across the screen.

The teacher may now go on to provide his c.r.o. with a horizontal sweep. That is, he will cause the electron beam to sweep across the screen. This introduces one of the finest practical applications of the capacitor. Set up the circuit as shown in Fig. 8.

A note on the d.c. adjustable power supply is given in the Appendix. With no test voltage across the vertical plates, close the switch. The capacitor charges up and the beam is sent across the screen in one direction which depends upon the connection to the d.c. supply. When the switch is released, it will discharge through the large resistor and so the beam is brought back to its starting point but at a slower rate.

Now add one or more capacitors of total capacitance about 6 μ F. (oil filled capacitors of good voltage rating are available from disposals). Repeat the experiment. Note how the time constant of the C-R system has increased and the beam will return very slowly across the screen. By rapid making and breaking of the switch, the beam will be observed to form a straight line across the screen. You have made a simple horizontal sweep which will lead to much discussion on behalf of the pupils.

Taking the c.r.o. a little further, we can make a continuous horizontal sweep or time base. All we need to do is to replace the switch in Fig. 8 with a neon lamp (see Fig. 9). The NES1 is fairly readily available, but try to obtain its special socket when you buy the lamp. (Price of both is about 4/-).

All neons have the property of "striking", i.e. conducting when a certain voltage across them is reached. They continue to conduct even when the p.d. across them has fallen below their striking voltage until the extinguishing voltage is reached. In this circuit, the lamp strikes as the capacitor builds up, but fails when the latter discharges through the resistor. By carefully adjusting the d.c. voltage, the lamp may be set flashing. (If the voltage is too high the lamp will remain alight all the time.) The frequency of the lamp flashes is dependent upon the lamp characteristics as well as the values of the capacitor and resistor, but each time it is seen to flash, the beam will be swept forward and then backwards across the c.r. tube screen. Remember that the adjustable power supply mentioned is one in addition to the power supply delivering h.t. to the deflecting plates through the cables.

Thus provided with a time base, we may return to examine our test voltage. Apply the latter as usual to the vertical

* Space does not permit full accounts of other methods, but these are available in most electronic handbooks. Amongst the most popular are the r.f. (radio frequency) power supply which gives very high voltages and is safe, and the practice of connecting power transformers in series. (Make sure that all components are insulated for about 1,000v. and that your electrolytics are rated appropriately.) Exercise the greatest care with all power supplies.

plates and the time base to the horizontal plates (see Fig. 10).

Provided that the frequency of the "test" is not too great compared with that of our T-B, a series of wave forms may be observed. The wave forms will not be pure for a reason to be explained later. This wave formation may be compared with a person drawing a line vertically on a wall (test voltage) whilst walking along horizontally (time base). Obviously a wave pattern will be seen on the wall.

The above description will probably suffice to show pupils some of the practical aspects of the physics that they learn, and will not be beyond the demonstration powers of most teachers at this level of instruction. The following notes are brief and are accompanied by semi-diagrammatic sketches which will serve to complete the description of the c.r.o.

In many c.r.o.s the "soft" or gas-filled valve has a function of a relaxation oscillator. A simple one for the home constructor is the EN31 or the 884 triode. Its function is similar to that of the neon tube, the gas in it ionizing and so conducting when a certain voltage across it is reached.

Note how the value of the capacitor in the circuit (Fig. 11) may be altered by switching. This forms the "coarse frequency" adjustment in the front panel of the c.r.o., the frequency of the T/B being changed for the various frequencies of the test under investigation. Note too, that the resistor across the switched-in capacitor is made variable and so provides the c.r.o. with its "fine frequency" adjustment.

Unfortunately in the circuit of Fig. 11 there is no guarantee that each sweep of the T/B will occur at exactly the same part of the cycle of input current under investigation, and so it will not be surprising to see a series of wave patterns overlapping each other on the screen. To prevent this, we must feed back a little of the test current to the grid of our T/B oscillator. The frequency of the T/B being approximately a sub-multiple of the test, it will be "locked" to it.

The control in Fig. 12 will be the "synchronisation adjustment" ("synch" as it is called) in front of the c.r.o. The block diagram of the c.r.o. will now look as shown in Fig. 13.

Amplifiers (which must be very carefully designed so that there will be no loss of gain at higher frequencies) are used both for the vertical and horizontal plates, so that very small input voltages may be examined. The general scheme of such an amplifier is shown in Fig. 14.

It is not a difficult task to adapt an ordinary r.f. amplifier for use as a radio for this purpose. The theory is only one step from the theory of a triode once the function of the two new electrodes and the meaning of dropping resistor are pointed out.

Better quality c.r.o.s as well as having good amplifiers, possess the property of suppressed fly-back. By applying a voltage of certain phase from the plate of the sweep generator to the intensity grid of the c.r. tube, the return trace of the electron beam to its starting point may be blanked out and only the wave form trace observed. After all these improvements, the schematic diagram of the c.r.o. may appear as shown in Fig. 15.

The front panel of the c.r.o. and its connections may look something like that shown in Fig. 16. All the controls shown with an arrow are adjustable; the shaded ones are insulated terminals.

Intensity.—If you use low voltages you will find that this intensity or brilliance control will need to be turned full up.

Focus.—If the beam is fully out of focus, you may be able to see on some c.r. tubes the shadow of one or more of the deflecting plates upon the screen. Thus the plate may take the place of the conventional Maltese Cross of the Crookes tube. If you wish to demonstrate the movement of a "spot" on the screen do not allow it to remain on the screen for a long period in any one position or else it may "burn" the screen. De-focus the beam and then re-focus when ready.

X Shift.—Used to alter the position of the spot or wave pattern in a horizontal direction. Illustrates electrostatic deflection.

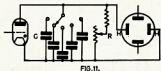


FIG. 11.

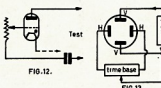


FIG. 12.



FIG. 13.

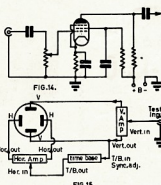


FIG. 14.

One of the vertical and horizontal amplifier output terminals is usually earthed except in the case where push-pull amplification is used.

Y Shift.—Used to alter the position of the spot or wave pattern in a vertical direction.

Coarse Freq. and Fine Freq.—Used to bring about a suitable wave pattern upon the screen. Adjustment will depend upon the frequency of the test.

Synch. Adj.—The synchronisation adjustment. This control brings about a stationary pattern on the screen.

E — earth. In the simplest of c.r.o.s, this will also be one of the leads to the vertical amplifier, and so one of the leads from the "test" will be connected to it.

V. In.—Vertical amplifier input. This is the remaining terminal to which the "test" is connected.

Vert. Amp.—This is the gain control of the vertical amplifier. Just connecting the test to the E and the V. In. terminals will result in a vertical line being shown on the screen whose height may be controlled by the vertical amplifier gain control. If the test is a d.c. source then the line will only show up momentarily owing to the presence of the blocking capacitor, unless there is provision made to connect the test directly to the c.r.t. plates.

V. Out.—Vertical amplifier output. In the simplest c.r.o. the other output terminal will be earth.

T/B In.—Time base input. Normally a time-base will be used and so the output of the vertical amplifier must be connected by means of a "jumper" (usually a piece of copper wire) to the T/B input terminal. This is shown in Fig. 16.

T/B Out.—The time base output. Where the T/B is used, its output is amplified and so the latter is connected to the H. In.

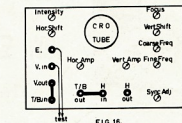


FIG. 15.

H. In.—Horizontal amplifier input terminal. The jumper used is also shown in Fig. 16.

H. Out.—Horizontal amplifier output. Behind the front panel this terminal is connected to one of the horizontal plates of the c.r.o.

H. Amp.—The horizontal amplifier gain control. With no test connected to the c.r.o., the length of the horizontal sweep across the c.r. screen will be made greater with this gain control.

With such an arrangement of terminals on the front panel, the amplifiers may be used independently of the c.r. tube and also other time bases or the ordinary 50 c.p.s. household current may be used as an "external" horizontal sweep. Another advantage is that the T/B may be disconnected from the amplifiers and sources of alternating current connected to the two sets of amplifiers to give Lissajous Figures. A separate article would be necessary to give some of the other uses that could be made of this wonderful instrument—the cathode ray oscilloscope.

We have followed through the development of the c.r.o. from elementary principles and some of these principles have been demonstrated. The thing to remember is that any complicated electronic device may be split up into sections which conveniently lend themselves to study. My advice to prospective constructors is to start off with the simplest of circuits and add to them. Most teachers of science at the navigation standard are capable of building their own equipment; the only difficulties seem to be the matter of time and

(Continued on Page 9)



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HINTS AND KINKS

MODIFICATION TO No. 122 SET

It is a very simple task to modify the ever-popular No. 122 Set to allow independent tuning of the receiver while maintaining the same carrier frequency.

This is done by disconnecting the v.f.o. section of the tuning gang and replacing it with the netting trimmer which now becomes v.f.o. control.

To have optimum bandwidth, the capacity of the netting trimmer C26A must be increased from maximum of 11 pF. to 50 pF., which allows complete coverage of 40 and 80 metres. The altered v.f.o. circuitry is now resonated on to the Amateu bands by adjusting fixed capacity across C26A. This can be conveniently made up of trimmers C29A and C29B connected in parallel.

Should the transceiver be required to transmit outside Amateu frequencies, as in an emergency, it is a simple task to add a single throw double pole toggle switch in the crash level position which disconnects the shunt capacity across C26A and re-connects the original v.f.o. tuning gang, thus re-establishing locked rx and v.f.o. tuning.

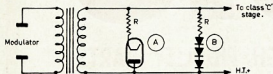
Incidentally, mechanical stability of the v.f.o. is greatly improved by this manoeuvre, which should interest those intending to mobile. Further mechanical bandwidth may be obtained by mounting a small planetary drive on C26A.

—Clem Maloof, VK2AMA.

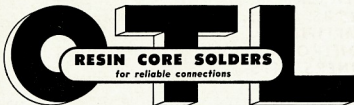
SPLATTER!

This form of interference is probably the most common one and probably the most exasperating, for we manufacture it in our own various ways and are often most offended and incredulous when some sufferer, who can no longer tolerate it, brings it to notice!

There is no need to delve into the theory regarding splatter here, for it has already been amply covered in various articles in other publications, and specific reference is made to "CQ," Jan. '59, p. 46, in this regard. The title is "Negative Cycle Loading" and describes symptoms and treatment, the latter being comparatively simple.



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For those unable to obtain that article for perusal, a brief summary of the circuit is shown herewith.

Two types of rectifiers are shown, A being a vacuum type and B silicon diodes in series. Either one can be used.

The resistor R shall have a value of half the impedance of the Class C stage and power rating of one-fourth the input.

The diode can be any rectifier which has sufficient current and inverse voltage rating.

A simple approach is to put some silicon rectifiers in series with the resistor, across the modulation transformer secondary, saving weight, space and heat.

From personal experience "N.C.L." can be very strongly recommended for use in all a.m. transmitters, so why not do the modification now and avoid needless interference to others using the band?

—Jim Herd, VK3JK.

A CLOCK FOR THE SHACK

A handy electric clock can be made by modifying the face of the small clock from a clock radio. I used a piece of grey laminex 8" x 8" on which was placed a paper template of a clock face 7" in diameter. The minute impressions in the laminex were made by several turns of a small drill, and the hour positions by a large one. The template was then removed, the minute impressions filled with black, and the hour with red enamel.

The hands were removed from the clock and the movement mounted on the rear of the laminex, the centre spindle for the hands passing through a hole (to size) in the centre.

The small hands were extended by soldering a piece of 16 gauge copper wire on each to the required size to suit the face. On the sweep hand, a piece of 1/029 was used.

Numbers of a suitable size were cut from a calendar and fixed in position. An outside cover made, and another piece of useful equipment for the shack.

The controls for use with a radio, which protrude, have to be removed to allow for the longer hand movement, also the alarm at the rear which can easily be cut away.

—C. Abernethy, WIA-L2211

CQ CQ CQ

ATTENTION BLIND AMATEURS

At the recent Victorian State Convention of the W.I.A. the matter of aid to blind Amateurs was brought up by Cyril Minns, VK3AM. It was proposed by Ken VK3TL that an ad hoc committee be formed to investigate the ways in which other Amateurs may help their blind friends.

After talking over this matter with Cyril, himself a blind Amateur, and having obtained some experience in following for him, it was felt that the following points should be brought out before any nation-wide or state-wide tape exchange and recording network be set up.

Firstly, the number of blind Amateurs and their location in Australia must be established. Would those Amateurs please send in the following details: Name of Blind Amateur, Call Sign, Postal Address, Make and Model of Tape Recorder available (if any), Speed (or speeds) of machine, details of tracks.

Please forward this information as soon as possible to Ken Matchett, 69 Atkinson Street, Templestowe, Victoria. Would the readers of this article do all they can to bring this to the notice of those concerned? We know you'll help if you are able.



1962 A.R.R.L. INTERNATIONAL DX COMPETITION

All Amateur Radio operators throughout the world are invited to participate in the 23th A.R.R.L. International DX Competition. You may earn a certificate of performance award issued to the top Phone and C.w. scorer in each country. In addition, you might QSO new States for the W.A.S. award, or Canadian Provinces for the W.A.Y.E. award.

This 1962 DX Contest will be held over two week-ends for c.w. and two week-ends for phone, as follows:

PHONE—February 2-4 and March 2-4.

CW—February 16-18 and March 16-18.

The starting time in each instance is 2400 GMT Friday and ends 2400 GMT Sunday. Phone and c.w. are separate contests.

The rules are unchanged from last year. Try to QSO as many W-K-VE-VQ-KH8-KL7 stations as possible during the contest in as many different call areas possible per band. Exchanges: DX stations send RS or RST report followed by a three-digit number representing power input. For example, on c.w. you might send 57R050, which means RST 57R and power input 50 watts. U.S.A.-Canada stations will send you a number consisting of RS or RST report followed by the name of their State or Province.

Scoring: Repeat QSOs on additional bands are permitted. Your multiplier is the total call areas (not states) QSOed on each band (maximum of 21 per band). Each completed QSO counts two (2) points. Incomplete contacts count two (2) points. Final score is the number of QSO-points times the multiplier.

Free log forms are available on request from A.R.R.L. You don't have to use these forms. Logs should contain calls, dates, times, bands, exchanges, and points. Send your log with summary data to A.R.R.L. DX Contest, 38 Lasalle Rd., West Hartford 7, Conn. U.S.A. Your entry must be postmarked by April 25, 1962, to be eligible.

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MOBILE WHIP-WITH FERRAMIC CORE

(Continued from Page 3)

poly. shavings in the solvent and adjusting to a suitably thick consistency.

When the slots are sealed up and the ferramic rods are snugly tucked away, the valve clamp is cut down to fit the 1/2" dural and finally secured to the bottom of the poly. rod with a 3" self tapping screw, providing a low resistance and efficient clamp to hold it rigidly in place.

The aerial base is mounted on an angle bracket simply by cutting off all of its stem excepting 2" which then has a thread turned on to it and which may be bolted in place firmly.

The lowest 1 1/2" of the tank whip is now roughened with a file, moistened with poly. cement and thrust firmly into the top of the poly. rod where it is allowed to set hard for two hours.

All is now set for winding the inductance. At each of its ends a tunnel is drilled through the poly. to the positions of attachment by soldering. Drilling poly. must be taken slowly since heating may cause melting. If this occurs the bit must be withdrawn and scraped with a keen knife.) The top of the coil is soldered to bottom of tank whip, while bottom of coil goes to the clamp.

ADJUSTING THE WHIP

The complete whip is now assembled on the vehicle and is tuned by adjusting the bottom turn of the coil. This

is best performed using a g.d.o. and an accurately calibrated receiver tuned to 7.1 meg.—being the centre of the phone band. The g.d.o. is coupled into a one-turn link between antenna base and the 680 pF. capacitor whose other end is earthed. This loop has negligible detuning effect; in fact it took an extra 4 ft. of bottom section to shift resonance 50 kc.

A more sensitive method of adjustment may follow the above. This is to fire up on 7.1 megs. (N.B. regulations) and, using an s.w.r. indicator in the transmitter end of the co-ax, adjust the bottom turn on the loading coil very slightly until s.w.r. approximates closely 1:1, which it will do with no trouble. The power handling capability was found to exceed 40w. r.f. input to the antenna base.

The performance of the whip has been excellent, having been in use eight months with a 122 set delivering 4 watts of r.f. output.

Its mechanical and electrical stability is f.b. and despite a 2,000 mile mobile holiday into VK4 through all weathers, the resonance point did not shift more than 10 kc. Two mobile scrambles found us co-winner in one and runner-up in the other, so at least nothing has been lost in this design as compared to more orthodox ones.

A word of warning, however, is to jealously guard the loading coil from the influence of stray magnetic fields. These are likely to alter its characteristics, necessitating a retuning job—ugh! After all that poly. has set hard too! ●

NAT. FIELD DAY 1962

ADDITIONAL RULE 6A

Entrants to Section C for Multiple Operator Stations can set up separate transmitters to work on different bands at the same time. All such units of a Multiple Operator Station must be located within an area that can be encompassed by a circle not greater than half a mile diameter.

For each transmitter of a Multiple Operator Station a separate log shall be kept with serial numbers starting from 001 and increasing by one for each successive contact. All logs of a Multiple Operator Station shall be submitted by the Operator under whose Call Sign the transmitters are working. No two transmitters of a Multiple Operator Station are permitted to operate on the same band at any time.



KNOW THE OSCILLOSCOPE

(Continued from Page 5)

one of getting started. Have a try and you will find it less difficult than you at first thought. You will learn a lot as well as getting a lot of fun out of your work.

APPENDIX

"An Adjustable Power Supply"

The following is a short account of an easy-to-make unit used to demonstrate the horizontal sweep of the c.r.o. It will find many uses in the laboratory where the load drawn is low. All its parts are from disused radio sets and cost next to nothing. The circuit is shown in Fig. 17.

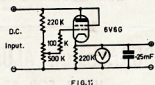


FIG. 17

The adjuster is seen to be a cathode follower. A tetrode of the p.a. type, e.g. 6L6, 6F6, 6V6, EL33, EL34, EL41 with high current-carrying capacity and high mutual conductance is used. The 6V6 is a common output valve in radio receivers, and the 500K pot. is commonly a receiver volume control. The less negative the grid becomes, the greater the plate current and so the greater the current through the cathode resistor. The output voltage is developed across this. Disposals voltmeters of about 0-40 v.d.c. are cheap and may be made into 0 to 400v. f.s.d. meters by altering their scale markings and adding a multiplier. Voltages from about 40 to 400 volts are available, the current being restricted by the components used (usually not much more than about 100 mA.). ●

* The original article and construction details, if needed, will be found in "Radio and Electrical Review," May 1954.

CRYSTALS

Crystals and Accessories, made by International Crystal Mfg. Co. of U.S.A., for Amateur and Commercial use are now available in Australia in the following types and frequencies.

TYPE FA-5 and FA-9: Height 0.765", width 0.750", tolerance 0.01%.

TYPE FM-9: A new miniaturised series. Height 0.510", width 0.400", tolerance 0.01%.

FREQUENCIES

| Operation | Type FA-5 and FA-9 | Type FM-9 |
|--------------|---------------------|-----------------------|
| Fundamental | 1000 Kc. to 20 Mc. | 8000 Kc. to 19.99 Mc. |
| 3rd Overtone | 10 Mc. to 59.99 Mc. | 20 Mc. to 59.99 Mc. |
| 5th Overtone | 60 Mc. to 99.99 Mc. | 60 Mc. to 110 Mc. |
| 7th Overtone | 100 Mc. to 137 Mc. | Not Available |

PRICES: Vary according to Frequency and Type:—

Type FA-5 and FA-9 range from £3/10/0 to £9/12/0.

Type FM-9 range from £5/5/0 to £10/15/0.

TYPE FX-1: These Crystals are also available in 0.01% or 0.005% tolerances for frequencies from 200 Kc. to 60 Mc. Height 0.75", width 0.75".

PRICES: Depending on tolerance and frequency, range from £3/18/0 to £16/0/0

ACCESSORIES include crystal ovens on standard octal base. Crystal sockets in multiple mountings with or without switches. Crystal controlled converters (single band) for use ahead of standard car radios for Amateur mobile work. There are units to cover all Amateur bands. Printed circuit Oscillators in kit or wired form, also Multivibrators.

ALL PRICES ARE SUBJECT TO SALES TAX.

We will be pleased to receive your enquiries. They will be promptly answered by return mail. Please remember to specify the type of crystal, the mode of operation, e.g. fundamental or overtone, and the exact frequency required.

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- Plate and Screen modulated at 100%.
- T.V.I. Proofed.
- 75w. input c.w.; 65w. phone; 52w. output.
- Crystal Mike input.



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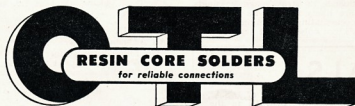
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HANSON ROAD,
WINGFIELD, S.A.

Phone: 45-6021 (4 lines)
Telegrams: "Metals," Adel.

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with more writing space.

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LOW DRIFT CRYSTALS

FOR

**AMATEUR
BANDS**

ACCURACY 0.02% OF
STATED FREQUENCY

3.5 and 7 Mc.

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12.5 and 14 Mc.

Fundamental Crystals,

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Regrinds £1/10/0

MAXWELL HOWDEN

15 CLAREMONT CRES.,
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VICTORIA

AUSTRALIAN DX CENTURY CLUB AWARD

OBJECTS

1. This Award was created in order to stimulate interest in working DX in Australia and to give successful applicants some tangible recognition of their achievements.
2. This Award, to be known as the "DX Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
3. A certificate of the Award will be issued to the applicants who show proof of having contacted one hundred countries, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Verifications are required from one hundred different countries as shown in the Official Countries List.
- 2.2 The Official Countries List will be published annually in "Amateur Radio" and will be amended from time to time as required. Should a country be deleted from the Countries List at any time, members and intending members will be credited with such country if the date of contact was before such deletion.
- 2.3 The commencing date for the Award is 1st January 1946. All contacts made on or after this date may be included.

OPERATION

- 3.1 Contacts must be made in the H.F. Band (Band 7) which extends from 3 to 30 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 7.

- 3.2 All contacts must be two-way contacts on the same band. Cross band contacts will not be allowed.
- 3.3 Contacts may be made using any authorised type of emission for the band concerned.
- 3.4 Credit may only be claimed for contacts with stations using regularly-assigned Government call signs for the country concerned.
- 3.5 Contacts made with ship or aircraft stations will not be allowed, but land-mobile stations may be claimed provided their specific location at the time of contact is clearly shown on the verification.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.
- 4.4 A check list must accompany every application setting out the details for each claimed station in accordance with the details required in Rule 4.3.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2811W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
- 5.2 A nominal charge of 2/6, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.
- 5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the D.X.C.C. wishing to have their verified country totals, over and above the one hundred necessary for membership, listed will notify these totals to the Awards Officer.
- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. in the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN V.H.F. CENTURY CLUB AWARD

OBJECTS

1. This Award has been created in order to stimulate interest in the V.H.F. bands in Australia, and to give successful applicants some tangible recognition of their achievements.
2. This Award, to be known as the "V.H.F. Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
3. Certificates of the Award will be issued to the applicants who show proof of having made one hundred contacts on the V.H.F. bands, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Contacts must be made in the V.H.F. Band (Band 8) which extends from 30 to 300 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 8.
- 2.2 In the case of the authorised bands between 30 and 100 Mc., verifications are required from one hundred different stations at least seventy of which must be Australian. The Amateur Bands 50 to 54 Mc. and 56 to 60 Mc. will be counted as one band for the purposes of the Award.
- 2.3 In the case of the authorised Amateur Band between 100 to 200 Mc. and any verifications band between 200 to 300 Mc., verifications from one hundred different stations for each band is required.
- 2.4 It is possible under these rules for one applicant to receive three certificates, one for each of the authorised Amateur Bands nominated in Rules 2.2 and 2.3.
- 2.5 The commencing date for the Award is 1st June, 1948. All contacts made on or after this date may be included.

OPERATION

- 3.1 All contacts must be two-way contacts on the same band, and cross band contacts will not be allowed.
- 3.2 Contacts may be made using any authorised type of emission for the band concerned.
- 3.3 Fixed stations may contact portable/mobile stations and vice versa, but portable/mobile station applicants must make their contacts from within the same call area.
- 3.4 Applicants, when operating either portable/mobile or fixed, may contact the same station licensee, but may not include both contacts for the same type of endorsement.
- 3.5 Applicants may only count one contact for a station worked as a limited licensee with a Z call sign who is subsequently contacted as a full A.O.C.P. holder.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the applicant's call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.
- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

- 4.4 A check list must accompany every application setting out the following details—
4.4.1 Applicant's name and call sign, and whether a member of the W.I.A. or not.

- 4.4.2 Band for which application is made, and whether special endorsement is involved.
- 4.4.3 Where applicable, the date of change of call sign and previous call sign.
- 4.4.4 Details of each contact as required by Rule 4.3.
- 4.4.5 The applicant's location at the time of each contact if portable/mobile operation is involved.
- 4.4.6 Any relevant details of any contact about which some doubt might exist.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2811W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
- 5.2 A nominal charge of 2/6, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.
- 5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the V.H.F.C.C. wishing to have their verified totals, over and above the one hundred necessary for membership, listed will notify these totals to the Awards Officer.
- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. in the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN D.X.C.C. COUNTRIES LIST

| | Phone | C.W. | | Phone | C.W. |
|-------------------------------|----------------|----------------------|----------|-----------------|-------------------------------------|
| AC3 | | Sikkim | *FF8 | ..... | French West Africa |
| AC4 | | Tibet | TU2 | (fr. 7/8/60) | Ivory Coast R. |
| AC5 | | Bhutan | TX2 | (fro m5/8/60) | Voltaic Rep. |
| AP | | East Pakistan | TY2 | (fr. 1/8/60) | Dahomey Rep. |
| AP2 | | Pakistan | TZ2 | (from 20/6/60) | Mali Rep. |
| BV (C3) | | Formosa | 5U7 | (from 3/8/60) | Niger Rep. |
| BY (C) | | China | 6T5 | (from 20/6/60) | Mauritania |
| C9 | | Manchuria | 6W8 | (fr. 20/6/60) | Senegal Rep. |
| CE | | Chile | FG7 | ..... | Guadeloupe |
| CE9, KC4, LU-Z, VK0, VP8, ZL5 | | etc., Antarctica | PH8 | ..... | Comoro Is. |
| CE0A | | Easter I. | FI8 | (prior 20/7/55) | Fr. Indo China |
| CE0Z | | J. Fernandez Arch. | FK8 | ..... | New Caledonia |
| CM, CO | | Cuba | FL8 | ..... | Fr. Somaliland |
| CN2 | (prior 1/7/60) | Tangier | FM7 | ..... | Martinique |
| CN2, 8, 9 | | Morocco | FN | (prior 1/11/54) | French India |
| CP | | Bolivia | FO8 | ..... | Clipperton I. |
| CR4 | | Cape Verde Is. | FO8 | ..... | Fr. Oceania |
| CR5 | | Portuguese Guinea | FP8 | ..... | St. Pierre & Miq. Is. |
| CR5 | | Principe, Sao Thome | *FQ8 | ..... | Fr. Equatorial Africa |
| CR6 | | Angola | TL8 | (fr. 13/8/60) | Cen. Afric. R. |
| CR7 | | Mozambique | TN8 | (from 15/8/60) | Congo Rep. |
| CR8 | | Goa (Port. India) | TR8 | (from 17/8/60) | Gabon Rep. |
| CR9 | | Macao | TT8 | (from 11/8/60) | Chad Rep. |
| CR10 | | Port. Timor | FR7 | ..... | Reunion I. |
| CT1 | | Portugal | FS7 | ..... | Saint Martin |
| CT2 | | Azores | FU8, YJ1 | ..... | New Hebrides |
| CT3 | | Madeira Is. | FW8 | ..... | Wallis & Futuna Is. |
| CX | | Uruguay | FY7 | ..... | Fr. Guiana & Inini |
| DJ, DL, DM | | Germany | G | ..... | England |
| DU | | Philippine Is. | GC | ..... | Channel Is. |
| EA | | Spain | GD | ..... | Isle of Man |
| EA6 | | Balearic Is. | GI | ..... | Northern Ireland |
| EA8 | | Canary Is. | GM | ..... | Scotland |
| EA9 | | Ifni | GW | ..... | Wales |
| EA9 | | Rio de Oro | HA | ..... | Hungary |
| EA9 | | Spanish Morocco | HB | ..... | Switzerland |
| EA0 | | Spanish Guinea | HC | ..... | Ecuador |
| EI | | Rep. of Ireland | HC8 | ..... | Galapagos Is. |
| EL | | Liberia | HE | ..... | Liechtenstein |
| EP, EQ | | Iran | HH | ..... | Haiti |
| ET2 | | Eritrea | HI | ..... | Dominican Rep. |
| ET3 | | Ethiopia | HK | ..... | Colombia |
| F | | France | HK0 | ..... | Arch. of San Andres and Providencia |
| FA | | Algeria | HK0 | ..... | Bajo Nuevo |
| FB8 | | A'dam & St. Paul Is. | HK0 | ..... | Malpelo Is. |
| FB8 | | Kerguelen Is. | HL | ..... | Korea |
| FB8 | | Tromelin I. | HP | ..... | Panama |
| FC | | Corsica | HR | ..... | Honduras |
| FD | | Togo | HS | ..... | Thailand |
| FE8 | | French Cameroons | HV | ..... | Vatican |
| | | | HZ | ..... | Saudi Arabia |
| | | | II, IT1 | ..... | Italy |

*Fr. West Africa and Fr. Equatorial Africa: Only contacts dated prior to when the particular area obtained separate listing (as shown) will count.

| | Phone | C.W. | | Phone | C.W. |
|-------------------|-------|--|--------------------------------|-------|---------------------------|
| II (prior 1/4/57) | | Trieste | PK5 | ..... | Neth. Borneo |
| I5 (prior 1/7/60) | | It. Somaliland | PK6 | ..... | Celebes & Molucca Is. |
| IS1 | | Sardinia | PK | ..... | Andorra |
| JA, KA | | Japan | PY | ..... | Brazil |
| JT1 | | Mongolia | PY0 | ..... | Fernando de Noronha |
| JY | | Jordan | PY0 | ..... | Trindade & Martin Vaz Is. |
| JZ0 | | Neth. New Guinea | PZ1 | ..... | Netherlands Guiana |
| K, W | | U.S.A. | SL, SM | ..... | Sweden |
| KA0, KG61 | | Bonin & Volcano Is. | SP | ..... | Poland |
| KB6 | | Baker, Howland and American Phoenix Is. | ST2 | ..... | Sudan |
| KC4 | | Navassa I. | SU | ..... | Egypt |
| KC6 | | Eastern Caroline Is. | SV | ..... | Crete |
| KC6 | | Western Caroline Is. | SV | ..... | Dodecanese |
| KG4 | | Guantanamo Bay | SV | ..... | Greece |
| KG6 | | Marcus I. | TA | ..... | Turkey |
| KG6 | | Mariana Is. | TF | ..... | Iceland |
| KH6 | | Hawaiian Is. | TG | ..... | Guatemala |
| KH6 | | Kure I. | TI | ..... | Costa Rica |
| KJ6 | | Johnston I. | TI9 | ..... | Cocos I. |
| KL7 | | Alaska | TL, TN, TR, TT (see after FQ8) | ..... |  |
| KM6 | | Midway Is. | TU, TX, TY, TZ (see after FF8) | ..... |  |
| KP4 | | Puerto Rico | UA1, 2, 3, 4, 6 | ..... | Eur. R.S.F.S.R. |
| KP6 | | Palmyra Group, Jarvis I. | UA1 | ..... | Franz Josef Land |
| KR6 | | Ryukyu Is. | UA2 | ..... | Kaliningrad Region |
| KS4B | | Serrana Bank and Roncador Cay | UA9, 0 | ..... | Asiatic R.S.F.S.R. |
| KS4 | | Swan Is. | UA0 (prior 1/9/60) | ..... | Wrangel I. |
| KS6 | | American Samoa | UB5 | ..... | Ukraine |
| KV4 | | Virgin Is. | UC2 | ..... | White Russian S.S.R. |
| KW6 | | Wake I. | UD6 | ..... | Azerbaijan |
| KX6 | | Marshall Is. | UF6 | ..... | Georgia |
| KZ5 | | Canal Zone | UG6 | ..... | Armenia |
| LA | | Jan Mayen | UH8 | ..... | Turkoman |
| LA | | Norway | UI8 | ..... | Uzbek |
| LA | | Svalbard | UJ8 | ..... | Tadzhik |
| LU | | Argentina | UL7 | ..... | Kazakh |
| LX | | Luxembourg | UM8 | ..... | Kirghiz |
| LZ | | Bulgaria | UN1 (prior 1/7/60) | ..... | Kar-Fin.Rep. |
| M1 | | San Marino | UO5 | ..... | Moldavia |
| MP4 | | Bahrein | UP2 | ..... | Lithuania |
| MP4 | | Qatar | UQ2 | ..... | Latvia |
| MP4 | | Trucial Oman | UR2 | ..... | Estonia |
| OA | | Peru | VE, VO | ..... | Canada |
| OD5 | | Lebanon | VK | ..... | Australia |
| OE | | Austria | VK2 | ..... | Lord Howe Is. |
| OH | | Finland | VK4 | ..... | Willis Is. |
| OH0 | | Aland Is. | VK9 | ..... | Christmas I. |
| OK | | Czechoslovakia | VK9 | ..... | Cocos Is. |
| ON4 | | Belgium | VK9 | ..... | Nauru I. |
| OX, KG1 | | Greenland | VK9 | ..... | Norfolk I. |
| OY | | Faeroes | VK9 | ..... | Papua Terr. |
| OZ | | Denmark | VK9 | ..... | Terr. of New Guinea |
| PA0, PII | | Netherlands | VK0 | ..... | Heard I. |
| PJ | | Neth. West Indies | VK0 | ..... | Macquarie I. |
| PJ2M | | Sint Maarten | VO (prior 1/4/49) | ..... | Newf./Lab. |
| PK1, 2, 3 | | Java | VP1 | ..... | British Honduras |
| PK4 | | Sumatra | VP2 (prior 1/6/58) | ..... | Leeward Is. |
| | | | VP2 | ..... | Anguilla |
| | | | VP2 | ..... | Antigua, Barbuda |

‡ One contact with each group formerly known as "Leeward Is." and "Windward Is." dated prior to 1/6/58 may be credited, in which case no further credit as a separate listing, as from 1/6/58, will be given those particular islands.

| | Phone | C.W. | | Phone | C.W. |
|---------------------|-------------------------|------|------------------------|----------------------------------|------|
| VP2 | Br. Virgin Is. | | YU | Yugoslavia | |
| VP2 | Montserrat | | YV | Venezuela | |
| VP2 | St. Kitts, Nevis | | YV0 | Aves I. | |
| †VP2 (prior 1/6/58) | Windw'd Is. | | ZA | Albania | |
| VP2 | Dominica | | ZB1 | Malta | |
| VP2 | Grenada & Deps. | | ZB2 | Gibraltar | |
| VP2 | St. Lucia | | ZC4 | Cyprus | |
| VP2 | St. Vincent & Deps. | | ZC5 | Br. North Borneo | |
| VP3 | British Guiana | | ZC6 | Palestine | |
| VP4 | Trinidad & Tobago | | ZD1 | Sierra Leone | |
| VP5 | Cayman Is. | | ZD3 | Gambia | |
| VP5 | Jamaica | | ZD6 | Nyasaland | |
| VP5 | Turks & Caicos Is. | | ZD7 | St. Helena | |
| VP6 | Barbados | | ZD8 | Ascension Is. | |
| VP7 | Bahama Is. | | ZD9 | Tristan da Cunha and | |
| VP8 | Falkland Is. | | | Gough I. | |
| VP8, LU-Z | South Georgia | | ZE | Southern Rhodesia | |
| VP8, LU-Z | South Orkney Is. | | ZK1 | Cook Is. | |
| VP8, LU-Z | South Sandwich Is. | | ZK1 | Manihiki Is. | |
| VP8, LU-Z, CE9 | Sth. Shet. Is. | | ZK2 | Niue | |
| VP9 | Bermuda Is. | | ZL | Chatham Is. | |
| VQ1 | Zanzibar | | ZL | New Zealand | |
| VQ2 | Northern Rhodesia | | ZL1 | Kermadec Is. | |
| VQ4 | Kenya | | ZL4 | Auckland and Campbell Is. | |
| VQ5 | Uganda | | ZM6 | British Samoa | |
| VQ6 (prior 1/7/60) | Br. Somalil'd | | ZM7 | Tokelau | |
| VQ8 | Cargados Carajos Shs. | | ZP | Paraguay | |
| VQ8 | Chagos Is. | | ZS1, 2, 4, 5, 6 | Union of S. Africa | |
| VQ8 | Mauritius | | ZS2 | Prince Ed. and Marion I. | |
| VQ8 | Rodriguez I. | | ZS3 | South-West Africa | |
| VQ9 | Seychelles | | ZS7 | Swaziland | |
| VR1 | British Phoenix Is. | | ZS8 | Basutoland | |
| VR1 | Gilbert & Ellice Is. | | ZS9 | Bechuanaland | |
| | and Ocean I. | | 3A | Monaco | |
| VR2 | Fiji Is. | | 3V8 | Tunisia | |
| VR3 | Fanning & Christmas Is. | | 3W8, XV5 | Vietnam | |
| VR4 | Solomon Is. | | 4S7 | Ceylon | |
| VR5 | Tonga Is. | | 4W1 | Yemen | |
| VR6 | Pitcairn I. | | 4X4 (from 14/5/48) | Israel | |
| VS1 (from 1/4/46) | Singapore | | 5A | Libya | |
| VS4 | Sarawak | | 5H3 | Tanganyika | |
| VS5 | Brunei | | 5N2 | Nigeria | |
| VS6 | Hong Kong | | 5R8 | (Madagascar) Malagasy | |
| VS9 | Aden & Socotra | | 5U7 (see after FF8) | | |
| VS9 | Kamaron Is. | | 601, 602 (from 1/7/60) | Somalia Rep. | |
| VS9 | Maldivs Is. | | | | |
| VS9 | Sultanate of Oman | | 6T5 (see after FF8) | | |
| VU2 | India | | 6W8 (see after FF8) | | |
| VU4 | Laccadive Is. | | 7G1 (from 1/10/58) | Rp. of Guinea | |
| VU5 | Andaman & Nicobar Is. | | 9G1, ZD4 | Ghana | |
| XE, XF | Mexico | | 9K2 | Kuwait | |
| XE4 | Revilla Gigedo | | 9K3 | Kuwait-Saudi Arabia Neutral Zone | |
| XW8 | Laos | | 9M2 | Malaya | |
| XZ2 | Burma | | 9N1 | Nepal | |
| YA | Afghanistan | | 9Q5 (previously OQ5-0) | Rep. of The Congo | |
| YI | Irak | | 9S4 (prior 1/4/57) | Saar | |
| YK | Syria | | 9U5 (from 1/7/60) | Ruanda-Urundi | |
| YN, YN0 | Nicaragua | | | Aldabra Is. | |
| YO | Roumania | | | Cambodia | |
| YS | Salvador | | | | |

Hello fellow short wave listeners, this is your new scribe for these notes, so I will introduce myself to you. My name is Robert Young (no relation to the famous film star), WIA-13076 (addressed as above), Secretary of the S.W.I. Group, Victorian Division of the W.I.A., Ian Woodman, WIA-13005, Assistant Secretary, is also helping me out with the notes.

Firstly, I would like to thank our past Secretary, Maurice Cox, for his outstanding service as Secretary and writer for the S.W.I. notes. Unfortunately Maurice is forced to look up his rx, half down his antenna, and nuckle down to study for his leaving examination, so I wish you all the best Maurice in your studies.

This being our first attempt at writing notes of this nature, I hope you will bear with us and help in making these notes in the magazine a success. So please write either to myself or to Ian with news from your Groups as to what you are doing and future activities. Please don't forget to write, I will answer your letters either personally or in the notes.

VKS NEWSREEL

As Maurice said we have had no news from the VKS since the award. We have had quite a few very keen s.w.l. coming in to the construction night on the second Friday of each month with their rx's and portable gear for the technical staff to listen to line-up or find out why they are not operating. We would be very pleased if any Amateur could assist in the technical side for this night. Ian Woodman was the only Amateur there to assist and I am afraid he did not know whether he was coming or going.

Sorry to hear about your home-brew rx playing up on 20 mx Mac, think of all the DX you are missing. Also Maurice may get a few letters for the technical staff to listen to line-up or find out why they are not operating. Someone was telling me about Noel Harrison's 50 ft. mast, breaking in half just above the guy wires. You may have to mix some more of that patented cold water glue up Noel to stick it together again. Ian Thomas seems to have been concentrating on his sweating for his examinations and also along the lines of hi-fi. Have you found that fault in your audio amplifier yet, Ian? Hope you succeed in building up that 600 ohm resistor lying dead on the shelf.

Yours truly is seriously considering buying a 40 ft. self-supporting windmill tower with prop, pitch motor, etc., and I am hoping to mount a multi-band quad on top, but the trouble is I will have to get a better rx to fit in with the antenna—a Q&R would fit in with Maurice Cox still listening hand on s.b. after getting over a bit of 2nd detector trouble in his rx; it's marvellous what a new valve will do.

In regard to the S.W.I. Convention, to be held at Warrnambool on 2nd of March, all s.w.l. are welcome to attend. If anyone is interested, let me know, so as accommodation arrangements, etc., can be made. Eric Trebilcock suggested to have a tour over the Fletcher Jones' factory at Warrnambool (we may get a few free samples). Their factory is very well planned out with trees, shrubs and lawns; it should be an interesting sight, Eric.

SOUTH AUSTRALIA

Colin says that things are very quiet in the South East due mainly to the s.w.l.'s staying in the A.O.C.P. exams in January. There will be four or five of them sitting for the Limited licence, Dale L5025, who sat for the last exam, and a few more who have passed the Limited licence, but as yet has not applied for his call sign. Listen at Dale's QTH is lined up for a 20 mx converter, the line-up on 2 mx is a xtal locked converter feeding into a No. 19 rx with a tunable i.f. of 3-7 Mc. The antenna is 2 mx is a 10 el. beam on a 12 ft. boom and 55 ft. high.

Les Dicker, L5038, is busy sorting out his equipment and has recently received a QTH. His rx set-up sounds quite good, it consists of a home-brew rx originally built by Howard Z54, containing a 9 Mc. converter, and a 22 Mc. antenna. The antenna is a 40 mx dipole, 67 ft. long. At present Les is building converters to cover 26, 50, 144 and 288 Mc., using a 525 as a mixer. He is also building a 20 mx converter. The VKS S.W.I.'s in Mount Gambier are considering publishing a magazine. They received a letter from the President of the South Aus-

tralian Division of the W.I.A. regarding the publication of such a magazine. He is all in favour of the move to create interest in the S.W.I. Groups, but as yet the President has not heard the views from other members. Official notice will be received as soon as it is confirmed.

Gary L5026 has modified a 322 rx for 2 mx and is very pleased with the results so far. Col SCJ gave Gary a call so that he could find the band and peak up the coils, but as yet he has not heard any other stations. The antenna at present is only a four element, just above the roof of the shack.

RADIO MAIL

I wish to thank the following for their letters: Chas. Abernethy, Peter Drew, Dave Jenkins, John Kennedy, Don Granter, Harry Major, Colin Hutcheson, and Eric Trebilcock.

Eric Trebilcock—Here is that man again, with his best cards received in Nov. (15/11/61): AF6C, QSL No. 229, 2000, HP15, KH-6EDY/Kure, OAAWB, TI2CMT, OAOKYA (Zone 23), UC2AG, UIRKAD, UIRAC, UQKRAE, VE-8YD (Zone 2), VK0JM and LUZJR (Antarctica), VK0WH (Macquarie Is.), VQ4UD, VS1VF, 9N1GVC (Nepal). Best loggings for past month include: K1EEDY, JTB (Zor), JTB, PSCP (East Pakistan), UG6KRA, VSARM, VRACV, K2BAU, UA2AB, CRITZ, KC0BJ. Thanks for the above information Eric.



Noel Harrison, WIA-13101, in his shack.

Chas. Abernethy has not received his rx back as yet due to some slight modifications to it, however he has received a 50 Mc. card from VKZDS owing from 3/1/61, also cards from W0JWV, XE1JE, ZK1AR, G3EQL, VESB0, VK1AM and TK1AR, who doubled up and sent two cards. During the absence of his rx Chas. has been listening to DX on 144 Mc., 100 miles being the best he heard. Chas. has just completed a power supply with three outlets, one for a 50 Mc. converter and another for 144 Mc., with one for the volts for his S meter, which is quite handy in saving the extra drain on the supply from the rx. Chas. claims that they have had rain up in VKZ for the past week or so. These stations were heard during anything on the week-ends except catch up with his mail.

John Kennedy has tried out Peter Vernon's method of tuning in s.b. with two dual wave rx's. He managed to tune in a W6HLL on 20 mx (what has happened to the old f.o.i.). John has also been listening to some DX on an AR88, which is the property of 3TA. Stations heard on 14 and 21 Mc. were ZS1CD, VR1G and VK0JH. These stations were heard during the Jamboree of the Air and the bands were very crowded.

Peter Fields has dropped me a few lines describing his rig, it consists of a 13-tube unknown make rx (who cares as long as it works) and two ex-R.A.F. converters covering 21, 28 and 50 Mc. The rx itself without converters covers 1.5, 3.5, 7, and 14 Mc. The only antenna Peter has at present is a coax-fed 7 Mc. dipole up 30 ft. in the air. It is used on all bands including 6 mx. Peter has heard

some good DX on 6 mx; they were VKS Z2LJ, 4NG, 2AQI, Z2XR, Z2GL, 4ZCD, 7AI, 7AQ and also Peter thinks 8AV. Every station was on 3.5 by 6.5 Mc. and the DX sounds very good over in VKS land. Some of the latest QSLs received by Peter are HB1KU, JA1BR, VR3CB, VRSRZ, JA2KC, W5BJZ/K60, W8WV.

Sorry to hear that Harry Major has not been able to attend our meetings as he hoped, but will make a special effort to attend the Xmas break-up on 8th Dec. Harry uses for a rx a 3-tube short wave set and is fed with a 20 ft. indoor wire running north and south across the room. It brings in many of the bigger overseas short wave stations, besides a number of the Australian stations. Harry received a card from Switzerland a few weeks ago, but it is of very poor design. This station is heard regularly on Saturday afternoons about 3 p.m.

Now a few words from the "Ears of Netherlands". Peter's rx set-up on 80 mx is a home brew 3-tube regenerative, the antenna is a 30 ft. long wire, 1 ft. high. For s.b. on 80 Peter uses a dual wave rx in conjunction with the regenerative rx for c.w. and s.b. (no, not the same as the regenerative rx in the 1935 model) which has no r.f. stage. Antenna is a half wave 40 mx dipole about 20 ft. high running 120 degrees to the tower. For 20 mx the same dual wave rx is used, so that is the rx set-up of Peter's and how he receives all the DX he will never know; perhaps he has a very good location. Peter also has a 10 transistor dual wave rx which covers 30 and 40 metres.

Dave L308 has not been very active on the listening side, because he has to milk the cows, etc. and turn around and prepare his own meals. Dave has heard some DX on 7 Mc. and occasionally on 3.5 Mc. w.v. first thing in the morning. The DX total is 141 countries heard and confirmed. Dave says that he has not got around to sending out any QSLs but hopes to very soon when things settle down on the farm. A start has been made on the construction of a converter covering 14, 21 and 28 Mc. using transistors with an r.f. stage. Dave finds a few signals on 14 Mc. from Europe in the morning between 0330 hrs. to 0600 hrs. E.S.T. also a few Ws come through at night around 2300 hrs.

Don L308B has been hearing some terrific DX up on the border. He has heard in Nov. to date 48 stations. Don heard CT3AB and also VS8AAC early one morning.

Well that's it close to the close, so I would like to wish you all a Happy and Prosperous New Year, 73, and the best of DX, Robert L3076.

DX LADDER

| Countries | Zns. | S.b. | S.b. | W. |
|---------------|-------|-------|-------|----------|
| Conf. | Conf. | Conf. | Conf. | Stat. |
| E. Trebilcock | 274 | 280 | 40 | — |
| D. Granter | 91 | — | — | 50 |
| A. Weir | 158 | 31 | 31 | 52 |
| M. Hilliard | 63 | 207 | 33 | 5 00 11 |
| M. Cox | 35 | 259 | 20 | 4 114 13 |
| E. Abernethy | 28 | 87 | 21 | — |
| P. Drew | 28 | 107 | 16 | 64 4 |
| F. Fields | 28 | 133 | 27 | — |
| W. Harrison | 36 | 17 | — | 22 |
| D. Jenkin | 10 | 147 | 7 | — |
| N. Fisher | 3 | 36 | 3 | — |



UNUSUAL CONTACT

It may perhaps interest readers of the magazine if I report the details of a three-way contact last night (28th Nov.), using 14 Mc.

At 2115 hrs. E.A.S.T. VK40E/MM, ZLIA/OV, Aere Mobile, and my own station VK2APL and ZLIA/OV, Aere Mobile, were in contact. Other VK40E/MM was on a small vessel 150 miles north of Cairns, and ZLIA/OV Aere Mobile was from Darwin, Brisbane en route to New Zealand. The ship was QSA5 S8 and the aircraft QSA5 S8.

My transmitter was running 50w. input and my antenna was 135 ft. wire. I feel that possibly this QSO was unique in VK Amateur Radio, and submit these details for general information.

Neville A. Loffman, VK3APL.

V.h.f. Amateurs, like lower band operators, are more or less divided into those who like rag-chewing, the DX enthusiast, the mobiliser, the experimenter, and so on. Judging by the increasing amount of activity in the USED sections of our v.h.f. bands, it would appear to be about time some system of segregation and operating procedure was introduced on a basis similar to that found on the lower bands in various parts of the world. How many times have you attempted to copy a weak signal buried beneath a local station? How many times has an unsuspecting local rag-chewer come up on top of the DX signal in the middle of your contact? How many times have you tried to copy a weak fluttery mobile signal right alongside the sidebands of a strong local? How many times... and so on.

These, and many other instances of unnecessary interference, could perhaps be partially prevented if the v.h.f. bands were voluntarily divided into segments to provide reasonably clear channels for c.w., DX skeds, mobile, etc.

The two-bands mainly concerned are 6 and 2 metres where most of the activity is crammed into the lower megacycle.

Does the v.h.f. activity in your State warrant further thought? If so, why? What are you doing about acting promptly, and helping to diminish the increasing amount of unnecessary interference on the v.h.f. bands?

As you can see, the v.h.f. notes this month are published as presented by the v.h.f. scribbles in each State. If you feel that news from your area is not included in these pages because of being omitted from the V.h.f. Group, or your State, how about appointing yourself a news correspondent and forwarding any items of interest to your District Editor?

This, of course, applies to everybody. The scribbles cannot make the news and they cannot monitor the bands all the time. Therefore these notes can only be as informative and as interesting as you, the active v.h.f. Amateur, cares to make them. Remember, the fact that there is no news from your area is your own fault.

By this time the Ross Hull Contest will be in full swing. I hope that a greater number of contacts will be made this year and next year. Even if you realise you don't have much chance of winning a section, still enter a log.

Also this season, with two active VK3 stations on 6 metres in 8AV and 8AU, I hope you did receive that call, David, there should be quite a number of Amateurs qualifying for the 6 m W.A.S. award.

NEW SOUTH WALES

VK2W1, the N.S.W. Divisional station at Dural, has, since mid-November, been operating on the 1 m band. The morning and evening broadcasts are being done on 50.16 Mc. The rig at the moment is a 5763, 2E26, 423A, running 20 watts to a dipole 35 ft. high, running almost east and west. Modulator is a pair of 907s, driven from the station audio network. It is expected in the near future to increase to about 100 watts, change the frequency to a spot higher in the band, and erect a turnstile antenna. Thanks go to members of the Dural Club, and the V.h.f. Group for this transmitter.

VICTORIA

After several months of very low activity, 6 metres is becoming more popular with several openings to incite the interest. Very weak VK4 signals were heard on 13th Nov. when Jim 3ZHF worked 4ZAZ. The signals were not very strong, but held up for very long.

On Friday, 17th Nov. 4BG was heard working 7ZAZ, and then a VK5, but faded out at 1700.

Then on Tuesday, 20th Nov. between 1800 and 2000 hrs., the first big break-through to VK4 occurred. The VK4 stations logged were 4ZAZ, 4ZAZ, 4ZAF, 4ZAF, 4ZAF, and 4ZAF. Signals were of reasonable strength, but quite a bit of QSB. The thoughts of the VK4 stations without any trouble, they had great difficulty in making contacts with them. Graeme 3ZIX reports that on 20th Nov. at 1845 hrs. the white 4NC was heard on 6 m QSB, and also heard 4FG. Then at 1900 hrs.

the same evening Graeme heard 8AV at Daly Waters working a VK3. Signals were 5 and 7 with heavy QSB. Unfortunately Graeme was unable to copy the VK3.

On 20th Nov. at 1915 hrs. and on 20th Nov. at 1830 hrs., several weak VK4 signals were heard but no contacts made. Again on 1st Dec. at 1900 hrs. 4FG was heard very weakly.

On the morning of 2nd Dec. several weak ZL signals were heard, but no contacts made. Then at 1700 hrs. the same day, the northern VK4 stations were worked; signals peaking up to S9, with heavy QSB. But at 1750 hrs. the skip shifted south and the southern VK4 stations came through with possibly the strongest signals ever heard from them—8 plus, plus. This state of affairs only lasted for ten minutes then the skip shifted back to the northern stations again.

Ian 3ALZ has now erected his 30 ft. long yagi, 5 m and intends to be right amongst the DX this season. Graeme 3ZIX has erected a commenced tropospheric skeds with 4ZAZ on 1st Dec. and will be keeping these skeds at 1945 and 2045 hrs. nightly.

A new station on 6 m in Melbourne is Mervyn 3ZMC, located at Frankston. He is running 100 watts into a V7500, and uses a 30 ft. yagi. The usual 3-tube, belt locked, converter is used for receiving.

The final 6 m scramble in the series of six was held on 26th Nov. with 3ZGP as the centre station. Nineteen stations participated. John 3ZJV at Olinda was the winner with 17 contacts. The overall winners for the series were Peter 3ZDO with a total score of 84 contacts, second was Ivan 3ASG, 76 contacts; and third was David 3GV with 66 contacts. The next 6 m scramble will be held on Sunday with Jan., commencing at 1945 hrs. Keep the date and time in mind.

On 10th Nov. 3ZDP appeared to drop off quite a bit during Nov. but there were still some interesting contacts. At 2000 hrs. on 5th Dec. John 3ZCV at Moeil worked on 6 m with 3ZDP. Sale worked 7LZ TFF and TBQ; 3DY at Maffra also worked 7LZ and TBQ. On 6th Nov. conditions were still very good and 3ZCG worked 241 V. On 10th Nov. 3ZAG at Warraquall worked 3FO and 3ZIK at Castlemaine. On 7th Nov. 3ZAK contacted 3JW at Bendigo. On 24th Nov. 3ZAG worked 3JW, but 3ZJW was unable to contact him.

On 10th Nov. 3ZDP had a field day, working Melbourne stations. 3AW's sigs were heard on the morning of 11th Nov. but no contacts made. 3ZLT had a contact with 3AW on the morning of 19th Nov. and the same evening heard TW1P on Mt. Wellington, but was unable to get his tx fired up before they closed down.

Several new stations appeared on 2 m during the month including 3APJ, who operates portable from the Y.M.C.A., mainly on Tuesday evenings. 3ARZ has moved from the 6 m and is using the ever-popular 322 on 144.182 Mc. Antenna is a 6 ft. yagi up 24 ft. 3IX, at Essendon, an old-timer to Amateur Radio, has also appeared on the band using a 522 into a 5 ft. yagi.

3ZLM (Sale) is now active on 144.183 Mc. and 3ZNI (Morewell) has appeared on 144.63 Mc. using a 32 ft. phased array. 3ANS (Wangaratta) is a new face but is now fired up at Wangaratta, using a 100 watt rig, and assures me that in the Melbourne direction there is a big gap in the field. 3ALZ has re-built his antenna farm and will be using two stacked 30 ft. yagis on 2 m. 3VS (Nunawading) is very interested in 2 m and has heard Melbourne signals on a number of occasions. Each Wednesday 3ARZ has been working on 2 m and particularly looks for Melbourne contacts. Rex has also heard 3ZCL several times.

The 2 m scramble on 12th Nov. resulted as follows: country station was won by 3AVV with 42 points; city station, 3ZCB first with 32 pts. In the overall scoring for the series, 3ARX was the winner with 100 points, followed by 190 pts. 3ZL at Ballarat was second with 35 pts.; city station: 3ZCB was the winner with 141 pts. 3AAD second with 139 pts. The next 2 m scramble will be held on Sunday, 14th Jan. at 1945 hrs.

The Nov. 2 m fox hunt was won by Tom 3AOC at 1900 hrs. on 10th Nov. The next hunt will be held on Wednesday, 10th Jan. commencing at 2000 hrs. from College Crescent at the rear of the University. The white 4NC will be the target for the month was the v.h.f. field day on 19th Nov. This was voted

one of the most successful field days for some time. Most of the activity took place on 2 m. The highest score for the day was returned by 3ZL/T.P. on Mt. Donna Buang, who worked 33 stations for 59 points plus 10-pt. bonus for longest distance worked—382 miles to TW1P. TW1P worked five VK3 stations and greatly contributed to the interest and success of the field day.

The Jan. field day will be held on Sunday, 21st, and once again TW1P will be on Mt. Wellington. All rules for these field days appeared in the v.h.f. notes in "A.R." Sept. '61.

The Jan. meeting of the V.h.f. Group will be held on Wed., 17th, but you will have to listen to the Sunday 3W1 broadcasts to find out the location.

Please note that because of a course of study which will consume most of my spare time for the next three years, I have reluctantly had to relinquish the job of Publicity Officer for the V.h.f. Group. Len 3ZGP will be filling the gap until the election in May, and I hope that you will keep him supplied with news items for both the broadcasts and these notes.—3ARZ.

QUEENSLAND

Brisbane: There were quite a number of openings on 6 m during Nov. details as follows:

- To JA—25/11/61, 26/11/61.
- VK3—21/11/61.
- VK3—9/11/61, 21/11/61.
- VK3—13/11/61, 21/11/61, 24/11/61.
- VK7—16, 17, 18, and 21/11/61.

A new station on 6 m is 4ZAW who runs 20w. input to a 2E26 in the final. Modulation is 100% and the method of beam steering for transmitting is a four el. beam. Rectification is via a diode, and a t.v. turret turn fed into the antenna.

Brian 4ZAP and his wife, Pam, have been in Dalby for a couple of weeks and returned to Brisbane on 19th Nov. While in Dalby, Brian operated a 300 watt 3-tube rig with a 9 el. yagi. He worked the Brisbane boys regularly over a distance of 120 miles, even though the QSB was very bad. He also worked the Darling Range which inconveniently cuts between the two places.

The 3 m fox-hunt tx hunt was held on 3rd Nov. and took the form of a fox hunt. 4ZAX was the fox and after an interesting evening, finally stopped at the place where supper was to be held. Ten calls participated in the hunt.

Dane 4ZAX now has an excellent antenna system for this band, consisting of four yagis of 14 elements each at a height of 80 ft. He has been hearing signals on a frequency of 144.0025 Mc. via the medium of meteor trail reflections, and shortly will be connecting up a parametric r.f. lag.

A V.h.f. Group meeting was held at the home of Ron 4ZEB and 17 people were present. A tape recording of the lecture by Ed and the presentation of the award to the type of 4ZBY who achieved fame by working a JA with a tx running 17kw. input attached to his motor cycle.

A visitor to Brisbane, Rick 4ZWL, who is on a three-weeks' holiday from Cairns, has been visiting various shacks. Rick is very impressed at the size and complexity of some of the rigs constructed by the v.h.f. gang.—4ZBT.

WESTERN AUSTRALIA

We'll here we are again and unfortunately I have to apologise for no v.h.f. notes from VK6 appearing in last month's "A.R.". This, however, was not my fault. I was away from Perth and posted in plenty of time to be published, but because the day after the notes were sent I was advised that David 3AAU had shifted to 4 m and obviously they did not catch up with him.

V.h.f. activity has taken a rise with many new stations being heard and worked on both 50 and 144 Mc. Several reasons could possibly be offered for this, however we are not really concerned as to why but very pleased that this is the case.

The DX on 6 m seems as though it could prove quite interesting this year with three contacts on 6 m to VK6. One very interesting point was that on 30th Nov. 3AAU was heard calling CQ on c.w. on 50.4 Mc. at 1700 hrs. However it would appear that this signal was not as good as his tx as he did not

(Continued on Page 19)

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

GENTLEMEN'S AGREEMENT

Editor "A.R.," Dear Sir,
I write re VK3JB's letter of October on the abolition of c.w. He refers to the "Gentlemen's Agreement" as "an agreement which, to most, never existed." Is he presenting the viewpoint of the non-gentlemen?
The rest of his repetitive letter—I refer to his earlier one on the same lines—was dealt with in previous correspondence.

J. C. Redman, VK3JE.

Editor "A.R.," Dear Sir,
I wish to protest against your action in printing the letter by Roth Jones in October "A.R."

You saw fit not to print a letter of mine in reply to Roth's previous correspondence on the abolition of c.w. from the Amateur bands, stating that "correspondence is now closed."

This I was prepared to accept, but I am not prepared to accept your permission to him to re-open the subject again under the guise of "abolition of the Gentlemen's Agreement" and raise the previous subject of the abolition of c.w., on which "correspondence is closed."

Unfortunately the Postal Department did not deliver my "A.R." until today, too late for material in Nov. "A.R." but I feel very strongly about this discrimination.

—F. T. Hine, VK3QL.

Editor "A.R.," Dear Sir,
The Gentlemen's Agreement is recognised throughout the world and should only be altered after a world-wide investigation proves operating habits have changed away from c.w.

After operating a.m., s.s.b., and c.w., it appears that s.s.b. is replacing a.m. on some other bands and that c.w. would be eventually take over more of the a.m. sections. We have more room for phone here than in the U.S.A. and the ham population of over 200,000 is considered no wonder many Ws, including new Hams, turn to c.w.

A point often overlooked in favour of telephony—it can be regarded as an international language enabling contacts with distant Hams who have not mastered sufficient English to use phone.

We should consider c.w. operators in other countries who are forced to use c.w. for many reasons and give them the opportunity to contact Australia, this would hardly be possible on 7 Mc. if local phone nets spread out all across the band.

Perhaps c.w. should be encouraged on bands such as 7 and 14 Mc. where we have so little room, s.s.b. requires the channel space of many c.w. stations and c.w. band c.w. would be one way of restricting the number of available operating channels. There should be room for all phases of our hobby.

Hand sent telephony may be on the way out for commercial traffic, but even here is often replaced by another form of telephony, such as teletype. C.w. still brings pleasure to thousands of Hams throughout the world and proves a reliable method for long distant work through interference. Take a listen any evening and c.w. will be readily heard on stations in the first 50 Kc. of the 7 Mc. band with so few readable Amateur DX stations getting through on phone throughout the remaining 250 Kc.

International DX contests usually show twice the number of c.w. logs are received to phone logs with resulting higher scores. Check our DXCC list to find c.w. membership outweighs phone. To date it is hard to find any evidence that c.w. is outmoded as there are still plenty of c.w. activity on 7 and 14 Mc. and no law to prevent us using a.m. or s.s.b. on the first few Kc.—only Good Manners.

—Les Brennan, VK4XJ.

Editor "A.R.," Dear Sir,
In view of Mr. Roth Jones' remarks regarding c.w. operation in the Amateur bands, I feel it would be rather appropriate to quote an extract from the R.S.G.B. Bulletin, August 1961, page 75. The Bulletin says: "A recent survey by the R.S.G.B. has revealed that the preferred mode of operation of U.S. stations, expressed as a percentage of the total, was—c.w. 34%, a.m. 28%, s.s.b. 23%, r.t.t.y. 1.5%, f.m. 0.5%, and others including v.t. 0.5%." It would ap-

pear that 13.2% have no preferred mode of operation.

The Bulletin continues, "It is reported that there are now 217,102 current Amateur licensees in the U.S.A. and 24% is 73,814. It is suggested that 73,814 Amateurs is not inconsiderable."

I feel little comment is necessary, except to suggest that his friend in the Australian Market Research Department could be more usefully employed elsewhere.

Cyril Rylatt, VK3TC.

Editor "A.R.," Dear Sir,
I feel that some comment should be made on the subject of dividing the bands into phone and c.w. sections.

Almost all the other Amateurs in the world are only allowed to use phone in certain sections of the various bands, under the terms of their licenses. In this country a Gentlemen's Agreement only restricts the use of phone to sections other than the low frequency end of each high frequency band and so far this Gentlemen's Agreement has worked very well. It so happens that the divisions of our agreement fit in well with those in force overseas.

I think I am one who can claim to be neither a phone or c.w. man; I run skeds on both, I've won contests using each mode and I think it is obvious that we are fortunate in being able to use either mode as we wish.

Phone is ideal for the homeby side of Ham Radio—comparing notes with neighbours, idle nattering across town, and regular skeds with old friends. Given a good circuit it affords a more personal means of contact and a quick exchange of information.

C.w., unfortunately, requires the acquisition of a skill in operating—this does not only mean being a telegraphist, a whole lot of other qualities are required to be cultivated also—an appreciation of exactly when and on exactly which frequency to call in which speed, and for how long, to send to the other operator, taking into account the band environment, propagation conditions, and both the operator's circuit, and your judgment as to what he can cope with anyway.

C.w. will give a whole range of operating conditions from battling in an almost hopeless dogpile to peeling off a string of Yanks at whatever speed one chooses. For some reason or other, once produced, it has been proved, it is a most relaxing pastime. The wide variety of operators and signals encountered lends flavour to a most satisfying experience. I can sense the wild excitement of the novice

at the other end as he works his first VK at the words per minute, or you can catch snippets of "info" at breakneck speed with the "big guns". Somehow, on c.w., the intangibility of the average contact does not seem so obvious, and QRM are more business like, certainly more complete. It is a great shame that most of our casual public listeners judge Amateurs in general by what they hear on phone.

To have to do without one mode or other would be a great loss, but it is inherently very difficult to move close to a phone station and so we should honour our Gentlemen's Agreement and keep out of the c.w. bands when on phone.

We should beware of "market surveys," "consumer polls" and the like, conducted by "business consultants" or "research agencies," and use our own judgment according to what we can hear with our own receivers. I am not suggesting, of course, that the figures quoted in your columns a few months ago were the normal "figures-to-suit-the-boss" that these people are so facile in producing.

Re-read, sir, your Editorial in the October issue, note the results of unilateral action by one Amateur body in this respect, and leave the bands alone.

Before anyone quotes a letter I wrote to you shortly after the war, and in which I wrote that "c.w. operators can be turned out like sausages, and from similar material," I must say that I was obviously a very immature little boy at that time.

—"Tubby" Vale, VK5NO.

PUBLICATIONS AVAILABLE FROM FEDERAL TREASURER, W.I.A.

"Call Book Magazine": Back numbers (mostly recent) of the great American directory of Amateurs are available at £1. post paid (about 10/-) per volume. New "Call Book" is published by Federal Officers and are in near-new condition. Available at the moment are:—

World-wide: October 1959.
K and W calls: Jan. '60, April '60, Jan. '61, April '61, July '61.

There is also an English publication of a different character: "A Guide to Amateur Radio" is a new book. This has been an excellent handbook for the beginner, with a lot for the experienced Ham too. 5/-, post paid.

World-wide: October 1959. W.I.A., Bob Boase, VK3NI, 50 Cardigan St., Carlton, N.J., Vic.

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FROM ALAN H. REID, VK3AHR

- V.L.O. operation is essential.
- The V.L.O. must be stable.
- The station receiver must be reasonably well calibrated, sufficiently so to give a frequency reading preferably to within 1 Kc. Alternatively, a quickly-readable frequency meter is necessary.
- One switch operation, preferably of the "press-to-talk" type, is required. Vox operation is, of course, permissible, but by no means essential.
- Accurate and quick setting of the transmitter on to the receiver frequency is necessary.

- General Comments.** Except under special circumstances, all stations taking part in the QSO should be on the one frequency. This is important if it leaves more channels clear, facilitates break-in of an additional station when desirable, and allows the operator to know almost everything that is going on right through the QSO.
- Use only the sideband (upper or lower) accepted as being standard for the particular band.**
- Before first transmitting after a period of shut-down, select your channel carefully, after checking over the band. Listen on it for say half-a-minute before transmitting, and if the band is really busy, first say "Is this channel occupied?" or "Will I be causing any interference if I use this channel?" Look out for any signs of disagreement, any request to move after starting your first call.**

(Continued from Page 17)

acknowledge calls made to him, and his sign eventually faded out, leaving a disappointed 6RY. From this it would appear that David's request to keep the first 100 Kc. segment of the band clear is a waste of time anyway because his rx does not hear stations, hi! This is just as shot at David for his comments in Oct. "A.R." notes.

VK6VV came through on 50 Mc. about a fortnight ago and this is only the second time he has broken through from Geraldton. These types of things most certainly keep the interest in the bands. Hope to hear you again very soon Brian.

The last tx hunt was on 6 mx and the antennae used were quite amusing. One ex-VK3 type rolled up with a comical quid perched on the front of his Minor, complete with mum's broom for a support. The winners were Lance 6ZBK and Gill 6ZBW, and although 6RY did not arrive on the scene until about third or fourth, was second in. Next hunt could prove to be interesting as it will be our Christmas outing and speculation as to what it will be quite keen. It probably will be hand-held gear operated by XYLS and YLS without any assistance from their halves.

Well, that is about it for now, except that we would like to congratulate Bob 6ZCY on his recent marriage. Please remember the V.H.F. expedition to Cadz Nataru by Kevin 6ZBF and Stan 6ZAS during January—6RY.

Although rather belatedly, the 6 mx band finally did the right thing on 16th Nov. with an opening to VK4 and northern VK2. This opening was rather patchy, but some of the newer stations were able to contact their first DX. A repeat performance was staged on the next evening when, once again, we had things all our own way without the usual opposition from VKs.

Again, on 21st Nov., VK5 and VK2 (Sydney) areas were worked and a lone VK4 heard. The month was about the worst the Group's operation on 2 mx from Mt. Wellington, behind Hobart, elevation 4,166 ft. This is the first time we have been able to use this type of gear

Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

(d) **Calling CQ.** "Hello CQ" three times, with your call once, followed by "listening" or "standing by" is an efficient and adequate call. Perhaps "listening on this frequency" or "standing by on this frequency" is slightly more desirable. If, for some special reason, you want the other man to answer on a different frequency, say "Listening on Kc.". Listen on the frequency for say 10 seconds before repeating. An answering station should give your call once, his call once and some such remark as "Do you copy?", immediately after you say "listening".

(e) **Working a Station.** Keep the overs short. Don't exceed say 15 seconds, without letting go the tx and having a listen, however brief, on the frequency. The other fellow will probably want to comment without delay on your remarks, or he may even be copying you due to the arrival of QRM on the channel. Actually, the "over", meaning a series of comments with identification calls both before and after, is now redundant and should be scrapped. Normally, never transmit more than, say, six seconds without letting the other fellow have a say. As in c.w., don't send "double", i.e. don't repeat your words, unless your station is Q4 or less, or you know that it will be understood by the other fellow.

Never cover more than one subject in one transmission. The old method of covering 20 subjects during a 20 minute single transmission, replied to by 20 corresponding comments, again during one transmission from the other party, should be dropped as it is completely tedious and wasteful. If you find a clear channel, initiate a call and are answered by someone, he should vacate the frequency to allow the other fellow to be contacted. If, at the end of the QSO, someone comes on and calls him, he should say "let's move off this frequency to — Kc.". Of course, if you announce that you are closing down, they will continue to use that channel if they wish to.

and results were most gratifying. Five VK3 stations were contacted—four of these were portable field day stations—and four northern VK2 stations, who wanted to be contacted from Hobart, provided interesting QSOs.

These contacts seem to be basic, ground-wave communications—distances of 350 miles do not seem to be excessive, especially when coupled with a total height advantage of 6,000 ft. The fact that no Melbourne stations were heard seems to support this.

Although we spent a worrying 90 minutes getting gear set up—everything possible seemed to go wrong—we were not perhaps so bad. Out host T.V. station had to go off the air to change four rectifiers, or perhaps we should not mention that.

Although we were in the next room to the T.V. gear, we did not detect it in any way and a half wave co-ax stub cleared up most of the interference we experienced on 2 mx band.

The effort was not, however, the easy proposition it might seem to others. This was brought home to us when, whilst lowering our 24 ft. long beam at 2030 hrs. in a howling, icy 30 degree gale, a support-wire broke, sending beam and tower hurtling towards all and sundry.

However, after groping our way through a six ft. visibility mist for a half mile on the way home, we still considered it worth the effort. At least we were not as bad as perhaps this a couple of times per week as suggested.

Now, more than ever, we are determined to work out of Hobart over our mountains (not hills, if you please). TZA4 is working on a parametric amplifier and, in conjunction with TZBE, trying out passive repeaters. Believe that Col. T.L.Z. Lounsbury has already been hearing or working 3ZCG very consistently during mid-November.

New stations on 2 mx in the south are TZZ and TGC whose possible use of c.w. should prove quite advantageous.

The next meeting of the V.H.F. Group will be on 18th Jan. and all interested parties are invited, particularly any interstate visitors who happen to be in the "Holiday Isle".

Rumour has it that Bryan TZBE, our Secretary, is looking for a job in VK5, as yet result unknown.

Following the publicity given to 10,000 Mc. gear, interest in this is quite high in southern

(f) **Round-Table Operation.** Although often very pleasant, I've heard many good two-way QSOs completely ruined by a break-in station. Never try and break-in to a QSO unless you can copy all parties to it Q4. Listen to the conversation for a short while to gauge if an addition to the QSO would really be welcome. For instance, don't try and break-in if they are in the middle of a subject of discussion, even if it means waiting for quite a while, or if they are two old friends obviously enjoying a private two-way chat. Don't break-in unless you can contribute something to the QSO. If you just break-in for a report, do so with due humility. This practice, in I suppose, admissible, but only if an appropriate moment in the QSO is selected and if it is made snappy. (Don't include an unsolicited detailed description of your rig, your location, and a weather report.)

In a round table, it is generally desirable to say to whom you are "passing it", although good operators in a round-table just come in and out, without confusion, whenever they have something to contribute.

It is not your right to be acknowledged and allowed to enter an existing QSO. However, if the above rules are followed, you will usually be welcomed in by both parties.

Don't "identify" unnecessarily. At the start and the finish of a QSO is mandatory, as well as at the intervals specified by the Regulations. There is usually no need to keep identifying every half-minute or so, unless conditions are such that a signal suggests this as "tuning chatter", or you know someone else will be looking for you on the band and you want to make it easier for him to find you.

When finishing a QSO, don't linger! Two "fals" are, I suppose, natural, but three or more are unnecessary. You will naturally lose interest on the frequency for a few seconds after finishing a QSO and before switching off.

Tasmania. One unit has been obtained and more are expected. The situation of some of our higher mountains seems to be ideal for work on this band—TZA0.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

| Call | Cer. Cnt. | Call | Cer. Cnt. |
|--------|-----------|--------|-----------|
| VK3AB | 45 285 | VK3CW | 208 |
| VK3AU | 45 285 | VK3VKT | 204 |
| VK3MK | 43 250 | VK4HR | 12 192 |
| VK3AOH | 51 232 | VK4RW | 23 194 |
| VK4PF | 51 232 | VK3CB | 60 171 |
| VK3WL | 14 211 | VK3GB | 60 171 |

| Call | Cer. Cnt. | Call | Cer. Cnt. |
|-------|-----------|-------|-----------|
| VK3KB | 10 294 | VK4HR | 8 218 |
| VK3CX | 26 284 | VK6RU | 18 215 |
| VK4PF | 29 264 | VK3KU | 45 213 |
| VK3NC | 19 252 | VK3L | 39 211 |
| VK3FH | 15 228 | VK3YL | 39 211 |
| VK3BZ | 6 222 | VK3XK | 41 204 |

| | | | |
|--------|--------|-------|--------|
| VK3ARX | 66 167 | VK3AX | 68 126 |
|--------|--------|-------|--------|

| Call | Cer. Cnt. | Call | Cer. Cnt. |
|--------|-----------|--------|-----------|
| VK2ACX | 6 289 | VK3HG | 3 241 |
| VK3RU | 27 285 | VK3AOH | 7 244 |
| VK4FJ | 32 267 | VK4HR | 9 233 |
| VK3NC | 77 255 | VK3BZ | 4 221 |
| VK3M | 77 255 | VK3L | 4 221 |
| VK3AGH | 83 245 | VK3WL | 45 221 |

| | |
|--------|--------|
| VK2APK | 82 145 |
|--------|--------|



Amateur Radio, January, 1962

Hamburgers, who no doubt will put it to good use. It's not every day that a philanthropist is detected. Our friend (Takes bow). I am led to believe that the Toronto Rommel finally purchased one by private treaty.

At last our well informed brethren of the Publications Committee have realised that it is no use at all sending copies of "A.R." to the weak billiards players of the community. Latest member to be detected in this way is the Hon. member for West Walsend. Both he and an aforementioned billiards champion visited my humble abode this Saturday past for the express purpose of reading the magazine. Of course I always pay my fees on time. And while on the subject of fees, an innocent member of the staff, at the meeting, asked me what it was worth to have the low-down on "Getting My Gelooso Going". Our gentleman friend wishes it to be known that any information, and when found, will be dispensed free gratis and for nothing. There is absolutely no truth in the rumour that the January meeting is to include a lecture by Bill on signal shifters. Fact of the matter is that no January meeting is to be held. I did so want to hear how it (the L.C.) could be reduced.

The local antenna crew, Les, Bruce, Max and two others, shall remain neutral, but who acted as the brains of the party, visited the Teralba QTH of Harry 2AFA, and even installed a re-extended antenna on the antenna poles. A large 20 m signal from this location should be heard in distant places soon again. Harry also has donated some equipment to the amateurs and great interest has been the delight of those concerned. Thank you, Harry. Thanks also to Mrs. 2AFA for the refreshments enjoyed. The work of the antenna crew swiftly and expertly executed by skilled personnel, apply to the undersigned. The rain has prevented work on Belmont Bob's farm as promised, but by the time this appears another mighty array should be visible to all travellers on the Pacific Highway. Anyone some contacts to be had?

A man who is purported to have once carried £1,000 worth of test equipment in one of his cars to give a lecture demonstration will be visiting the club on Wednesday in February. No, he's not Santa, you've already had him. I'll let you in to more of the secret in the next notes. Suffice to say that the next meeting is in February on the ninth to be exact, at the usual place, University College of N.S.W., Tighes Hill, at 8 p.m. As there will be some interesting slides, and a quiz, and then, you may expect further details. By seeing that the mulberry leaf collector will have returned from the land of everything far beyond the horizon, you may expect a hearty welcome in his hostelry on the third Wednesday of each month from now on. Whether the January I know of, you may expect to listen around and you'll hear no doubt what's happening. Ta ta for now. 73, 2AKX.

BOORAGUL HIGH SCHOOL CLUB

The new components for the tx have arrived and, with the assistance of salvaged parts from two AT5 rigs and sundry others, the new 40w. station should soon be on the air. Some of the equipment is being used in the school project. We have to thank all those who have so generously donated equipment for the club project, especially Chris, who may expect it is hoped that the signal emitted will reflect the generosity of our benefactors.

The long-awaited printing of QSLs has eventuated and cards have been sent to all who have contacted the club. Should anyone have been missed, please let us know and we will correct the position.

In line with the offer by the Canberra School Club, Booragul also has various projects available on theory. These include capacitors, a.c. theory, the motor principle and tuned circuit theory as well as other matters. The school club requiring any of this free material is asked to forward requirements to the station as per call book QTH. Best wishes for all school clubs during 1962. 73, 2ATZ.

VICTORIA THE ROOMS AT VICTORIA PARADE

As you know by now, the application we made recently to the Board of Works for a permit to use the rooms was opposed by the Melbourne City Council and the board has seen fit to refuse our application.

Following the rejection of our application, the appeal was taken to the Minister for Government towards the end of November. This appeal is the last course of action open to us and the office-bearers of the Institute have pursued a line of action with this ultimate

step in view. Whatever the outcome of this appeal, we must realise that everything that could have been done has been done. Anyway, we await the outcome of this appeal and for the information of members the following summary of the proceedings at the appeal is published here.

The Wireless Institute of Australia, Victorian Division's appeal came on for hearing on Tuesday 21st November, before Messrs Campbell and Corrigan, two delegates appointed by the Minister to hear the appeal. Mr. B. M. Sneddon, instructed by Michael Owen, for Messrs. Pavey Wilson Corbett and Carter, appeared for the Institute. Mr. Don Mack appeared for the Board of Works. There were no appearances by or on behalf of the Melbourne City Council or the three persons who had lodged objections to the Melbourne and Metropolitan Board of Works to a permit being granted to the Institute. Mr. Mack informed the Board that the City Council and the persons who had lodged objections, had been notified of the appeal. The Chairmen stated that no correspondence had been received from either these persons, or the Council.

Mr. Mack stated that the Board was opposed to the permit being granted as it was residential neighbourhood and zoned as such by the Board under the Planning Scheme. He stated, however, that he did not consider that parking was a relevant consideration in determining the appeal, as there was ample parking at the time it was needed by the Institute. He contended also that there were some existing non-conforming use in the immediate neighbourhood.

Mr. Sneddon, for the Institute, submitted that the use sought was a beneficial one and referred to the improvements made to the land by the Institute. He outlined in detail the nature of the use to which it was desired to put the premises. He further submitted that the nature of the locality (which consisted generally of houses with very small frontages having separate ownership) was such as to be unsuitable for residential purposes, the Institute relied on the presence of the Victoria Brewery, the adjacent Drill Hall, and the factory at the rear of the subject premises in its argument.

Copies of the Institute's magazine, "Amateur Radio", the Institute's solicitor's original letter to the Board of Works, the Articles of Association and Memorandum of the Institute, and the results of a survey conducted by the Institute into parking in the immediate vicinity, were handed to the Board.

It is expected that the decision of the Minister will not be known for some time. Mr. Sneddon requested that the decision be expedited and referred to the heavy additional expense incurred by the Institute as a result of these proceedings. The delegates of the Minister indicated that they would recommend that an early decision would be made.

GENERAL MEETING, 7th FEBRUARY, 1962

Two short films by Mullard, of exceptional interest, will be shown at this meeting. It is also intended to discuss at this meeting the proposed Articles and Memorandum of a Federal Company, advance notice of which was given at the last meeting. This is of considerable importance, as it affects the whole

W.I.A., N.S.W. DIVISION

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Federal structure of the Institute. The proposed changes will be explained, and as many members as possible are asked to attend, in order that their views may be obtained.

JAMBOREE-ON-AIR 1961

The Boy Scouts Association, Victorian Branch, would like to sincerely thank all the Victorian Amateurs who so willingly co-operated with the Scouts to make the Jamboree-on-the-Air such an outstanding success.

The number of Amateur Stations and Scout Groups participating exceeded all expectations, with the result that more people were "on the air" on the Amateur bands than ever before. Despite the fact that the Scouts had a poor band conditions, the spirit pervading the event was wonderful. Sincere appreciation is expressed to those Amateurs who invited members of the Scout Groups to their homes, the hospitality received will long be remembered. Special mention must be made of those Amateurs who were responsible for setting up portable stations in Scout Halls and Camps. Their efforts were well repaid by the interest shown, and it is hoped that this type of participation will become a pattern for the future.

It is doubtful whether any previous event has provided more publicity, potential Ham contacts, and the population of the bands.

Participation:—

110 Amateur Stations were known to have been operating in Victoria, representing 108 Scout Groups and Guide Companies.

108 log sheets were received giving details of 91 stations and 136 groups.

226 members of the Scout Movement visited these 91 stations.

1181 contacts were made with other Amateur Stations.

1105 of these were Group to Group contacts.

122 overseas contacts were made.

37 different countries were contacted.

Most activity was in the 2 and 8 state. Amateurs who contacted overseas stations were disappointed that they were in other countries knew anything about the event. It is hoped that this will change in the future.

The above figures show a wonderfully successful "Jamboree". The increasing interest is evident as, compared with last year, three times as many of the operators took part. They were visited by six times the number of members of the Scout Movement.

As State Co-ordinator for the Boy Scouts' Jamboree-on-the-Air, I would like to thank Lin 3ARL, Arthur 3AUL, Jim 3ZK, Evans 3WC, Jim 3ABT, Bill 3AKW, and Gordon 3TH for their untiring help as Jamboree Secretaries.

—John Woodburn, VK3AGD.

SOUTH WESTERN ZONE

The usual cry of no information from zone members. The main news is greater action on the v.h.f. bands in Ballarat and Warrnambool. 50 Mc. is the most active this end of the zone, why, I do not know, when good DX is going begging on 144 Mc. More beams should be purchased, and a 3ZBR beam just north of Port Campbell, on a Soldier Settlement project. He is a sifter for me at 25 miles. The six metre gang are active most nights and have had a couple of break-throughs to VK4.

Bill 3WK is sporting anew call (formerly 3ZFG), also a new son, so Shirley is not such a widow. When after all busy with the farm so radio is in second place. He will be on 2 m before these notes are printed. Peter 3FX mobile happy after squash and table tennis. He is active on 2 m and get more contacts if Julie stopped on the mike. Kevin 3AKR on six mix with a pair of 80s. How the 10 m band is active. Kevin 3AKR putting strong signs down here on 2 m, also heard 3UCI on the last field day. Well that's it, hope Santa brought a bit more than you thought he would. 73, 3ANQ.

QUEENSLAND

With the coming of the Festive Season we wish all a Merry Christmas and a Happy New Year.

At the November Council meeting a letter of resignation from Bill 1WX was received. Bill, who handled capably the job of Secretary, was forced to resign due to ill health and is unable to take on the task in 1962. In consequence, without risk of further illness, in keeping with their policy of trying to even out the work on Council, the job of Secretary was asked to jointly by Peter 3PJ and Pat 4B3. It is with regret that we see Bill resign from Council as he was a very active member, but the reins are taken over by two enthusiastic members.



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Six d.c. volt ranges: 0.25, 2.5, 10, 50, 250, and 1,000 at 20,000 o.p.v.

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|-----------|------------|-----------|-----------|-----------|-----------|------------|
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| DC 3050 | FT 4440 | FT 4930 | FT 5635 | DC 6021.1 | DC 6561.3 | FT 7375 |
| FT 3195 | FT 4445 | FT 5005.6 | FT 5655 | LP 6032 | FT 6550 | LP 7450 |
| DC 3320 | FT 4465 | FT 5110 | FT 5660 | LP 6040 | FT 6560 | DC 7400 |
| DC 3325.5 | FT 4465 | DC 5145 | DC 5700 | FT 6050 | LP 6561 | FT 7406.6 |
| FT 3340 | FT 4490 | DC 5166.6 | FT 5706 | LP 6110 | DC 6572.3 | FT 7425 |
| DC 3440 | DC 4495 | DC 5170 | DC 5710 | LP 6130 | LP 6640 | FT 7440 |
| FT 3690 | FT 4535 | FT 5180 | FT 5740 | LP 6210 | FT 6650 | FT 7600 |
| FT 3828 | FT 4540 | FT 5205 | FT 5744 | FT 6225 | DC 6700 | LP 7890 |
| DC 3830 | FT 4549 | DC 5210 | DC 5770 | FT 6235 | DC 6750 | DC 7890 |
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| FT 3885 | FT 4672.76 | DC 5250 | FT 5775 | LP 6243.3 | FT 6815 | LP 7930 |
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| FT 4010 | FT 4735 | FT 5360 | FT 5815 | FT 6355 | LP 7010 | DC 8171.25 |
| FT 4025 | FT 4750 | FT 5365 | FT 5825.5 | FT 6375 | LP 7120 | DC 8176.9 |
| FT 4065 | DC 4770 | FT 5397 | FT 5855 | DC 6420 | LP 7171 | DC 8182.5 |
| FT 4080 | LP 4765 | DC 5410 | FT 5875.5 | FT 6462.5 | FT 7175 | DC 8460 |
| FT 4180 | FT 4780 | FT 5437 | FT 5910 | LP 6470 | FT 7200 | DC 8469.23 |
| FT 4235 | FT 4815 | DC 5515 | LP 5910 | FT 6515 | LP 7205 | DC 8645.45 |
| FT 4280 | FT 4840 | DC 5530 | FT 5920 | LP 6522.9 | LP 7270 | DC 8488 |
| FT 4295 | FT 4852 | FT 5515.5 | DC 5950 | FT 6535 | LP 7350 | DC 8525 |
| FT 4315 | FT 4885 | | | | DC 7362.5 | DC 8562.85 |

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20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
A.c. volts: 0-10, 50, 100, 500, 1,000.
D.c. current: 0-50 mA.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
Capacitance: 0.01-0.2 µF. (at a.c. 5v.); 0.0001-0.01 µF. (at a.c. 250v.).
Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
Battery used: UM73 1.5v. 1 piece.
Dimensions: 3 1/4 x 4 1/2 x 1-1/8 in.

Complete with internal battery, testing leads

Price £5/17/6 inc. tax.

1155 GENEMOTORS TYPE 34A

Input 9.3v., output 225v. at 110 mA.
Complete with relays and lifting mfr. in case. Weight 30 lbs. 19/6 each.
5/- handling charge.

RECORDING TAPE

TMK "Sincrotape" 7" Rolls, PL-12 (Standard) £1/16/6
TMK "Sincrotape" 7" Rolls AC-18 (Long Life) £2/10/6

AMERICAN POTENTIOMETERS

American Bradley, 2" long, 1/4" shaft, 1" diam. Available in following sizes: 20,000, 25,000, 30,000, 50,000, 100,000, 250,000 ohms, 1 and 2 megohms.

Price 2/6 each.

SPECIALS!! SPECIALS!!

High or Low Imp. Headphones, 12/6 pr. U.S.A. Ampenol Coaxial Plugs, 5/- each. Morse Key and Buzzer Sets, new, 12/6. SCR522 28v. Genemotor power supply, 20/- 5/- packing fee.

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Vibrators, Oak/M.S.P. 6v. synchronous 7-pin AV5211R £1 each

HOOK-UP WIRE

P.V.C. insulation, 0.028. Red or white. 100 yd. Rolls, 10/- Roll.

8 Mc. MINIATURE CRYSTALS

Band-edge market Miniature Crystal and socket, £2.

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CRYSTALS ALL THESE FREQUENCIES £2 EACH

| 3.5 Mc. Ham Band: | 50 Mc. Ham Band: | 144 Mc. Ham Band: |
|-------------------|------------------|-------------------|
| DC 3515 | FT 3555 | DC 8016 |
| FT 3535 | DC 3560 | DC 8016.5 |
| FT 3536 | DC 3562 | DC 8017 |
| FT 3537 | DC 3564 | DC 8017.5 |
| FT 3538 | DC 3573 | DC 8018 |
| DC 3547 | FT 3575 | DC 8018.5 |
| FT 3549 | FT 3580 | DC 8019 |
| FT 3552 | FT 3587 | DC 8019.5 |
| DC 3552 | FT 3595 | DC 8020 |
| | | DC 8020.5 |
| | | DC 8021 |
| | | DC 8021.5 |
| | | DC 8022 |
| | | DC 8022.5 |
| | | DC 8023 |
| | | DC 8023.5 |
| | | DC 8024 |
| | | DC 8024.5 |
| | | DC 8025 |
| | | DC 8025.5 |
| | | DC 8026 |
| | | DC 8026.5 |
| | | DC 8027 |
| | | DC 8027.5 |
| | | DC 8028 |
| | | DC 8028.5 |
| | | DC 8029 |
| | | DC 8029.5 |
| | | DC 8030 |
| | | DC 8030.5 |
| | | DC 8031 |
| | | DC 8031.5 |
| | | DC 8032 |
| | | DC 8032.5 |
| | | DC 8033 |
| | | DC 8033.5 |
| | | DC 8034 |
| | | DC 8034.5 |
| | | DC 8035 |
| | | DC 8035.5 |

1 Mc. Ham Band: DC 8000 DC 8014
DC 8010 DC 8014.5
DC 8013 DC 8015
DC 8013.5 DC 8015.5
Crystals of any frequency, £2.

Compliments of the Season to all our Clients

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges—d.c. volts: 6, 30, 120, 600, 1,200v.; a.c. volts: 6, 30, 120, 600, 1,200v. D.c. current: 60 µA, 6 mA, 60 mA, 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.2 µF, 0.0001-0.01 µF. Inductance: 30,000H. Decibels: -20 to +17 db. (0 db = -0.775v. -600 ohms). Dimensions: 4 1/2" x 6 1/2" x 2 1/2". Weight: 1.3 lbs.

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7-pin Miniature Valve Sockets and Shields. New, 15 for £1.

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Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.

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